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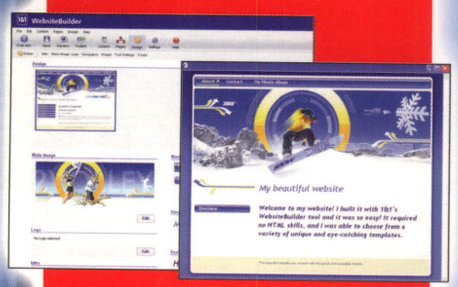
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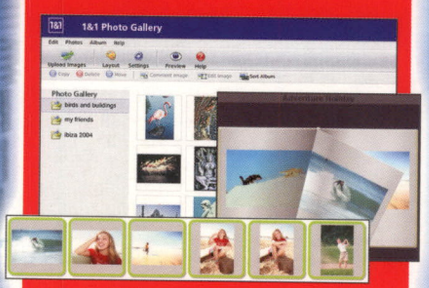

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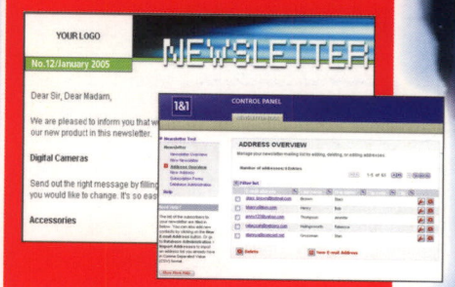

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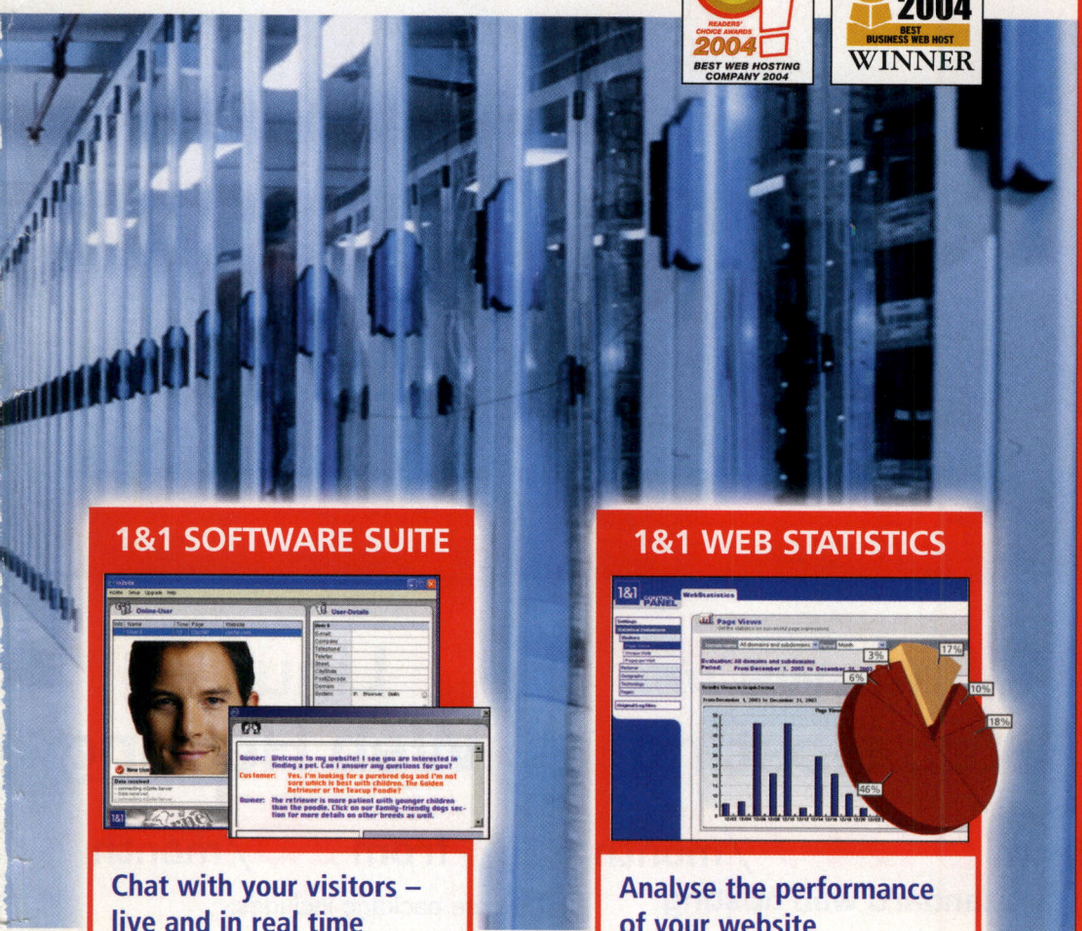

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DOMAIN NAMES	
Included .co.uk domains	3
Sub-domains	300
Point external domains to 1&1	100
Complete DNS Management	✓
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Best-laid plans

If you want to design a great website, you'll need to put pen to paper before you even think about switching on your computer. We'll show you how a little forward planning can save a lot of on-screen hassle...

It's said that you can save an hour in the library with a month in the lab, an axiom as relevant to the professional web designer building unique sites on tight deadlines as it is to the scientific researcher. Tempting as it is to fire up *Dreamweaver* and jump feet-first into a new job the moment the commission lands in your inbox, taking a little time to carefully plan the project on paper will pay dividends when you come to implement your ideas on-screen. But what exactly does planning a website entail? What do you need to consider, and how can you anticipate and prevent potential problems ahead of the build?

Our lead feature, starting on page 26, reveals all, from planning a new site's structure to organising your assets, and ensuring that the site is easy to maintain and update from the get go.

Once you've built and published your meticulously planned site, turn to page 34 to find out how to promote it effectively using the latest search engine marketing techniques, such as Google Adwords, link exchanging and keyword tagging. Or, if you've already got plenty of sites under your belt, and you're more interested in marketing your design skills, turn to our feature on page 44, which tells you how to select, organise, and publish your work as an online portfolio – on page 58 we'll even show you how to design a custom browser in which clients can view it.

Whatever you want to do online, you'll find plenty this month to help you design and build successful websites. Turn the page for the full contents, and enjoy the issue!

lisa jones.

Lisa Jones
Editor

ABOUT US...

Practical Web Design is a packed bi-monthly magazine offering practical web-building advice written by professional designers. Our tutorials are all complete projects that will help you to develop your existing skills and learn new ones, and our features are packed with essential advice and insights from the experts.

PRACTICAL WebDesign
All you need to build great websites
BUILD FOR SPEED
START SELLING
The insider's guide to creating a successful online business
Host your own site
How reliable is your site?
Design a 3D logo in Fireworks
BUILD AN RSS FEED

This issue's highlights

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PRACTICAL

WebDesign

All you need to build great websites

issue 21

Plan the perfect website

Map out your design, and lay the foundations for a site that's easy to build and maintain
PAGE 26

ON THE CD

Three full programs to improve your sites!

ROXIO PHOTOSUITE 5 LE (PC)

Transform your photos with this professional image editor

CUBECART 3.0.3 SE

Build an online store and sell directly from your website

BROWSERBOB PRO 3.2 (PC)

Design and skin your own web browser

Plus 100 free stock images, 110 free web fonts, 10 mobile utilities and much more – see page 92 for the full listing

Search engine marketing
PAGE 34

Build an online portfolio
PAGE 44

Design for mobiles
PAGE 62

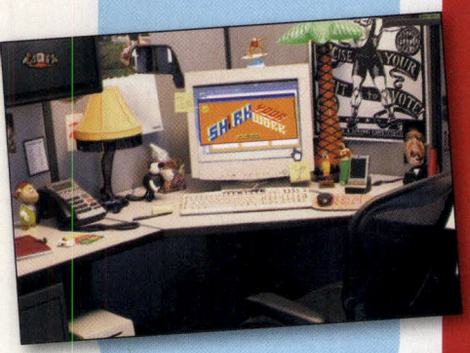
Pick the perfect platform
PAGE 76

DESIGN INSPIRATION

8 Inspired websites
See what's been going on in the world of web design – and inspire yourself in the process!

10 Makeover
A reader's website gets the *PWD* treatment

16 How we built...
The professional designers who put together Formula One racing site F1Play.com and airline operator ba.com give us an insight into how the sites were designed



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TUTORIALS

Expand your web design and building skills with our step-by-step guides

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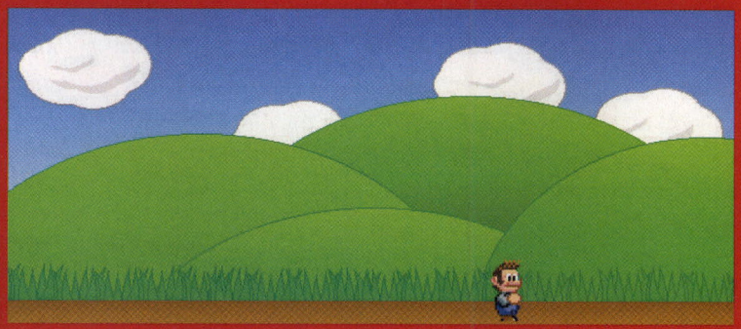

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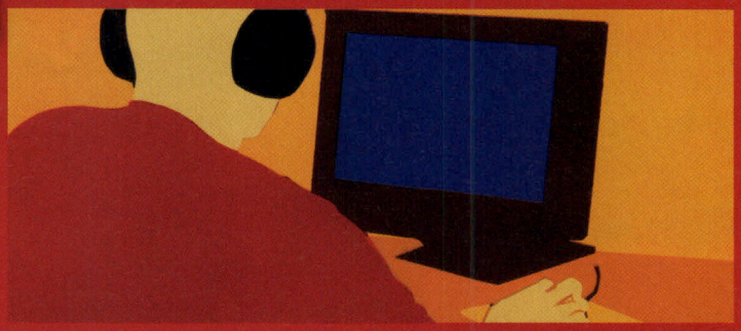

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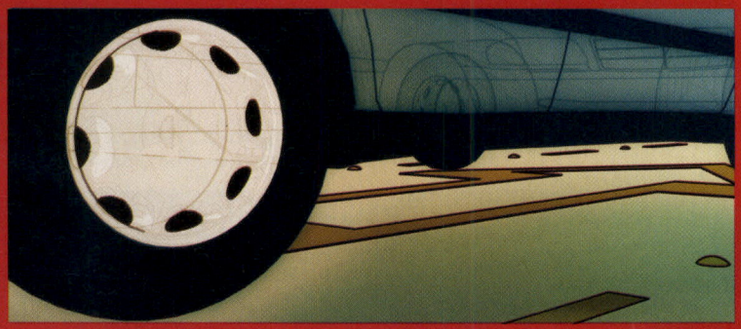

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Inspired websites

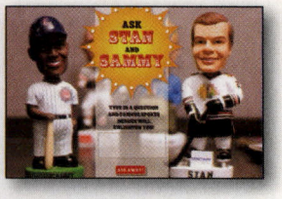
From herbal tea to vodka via street football and street-cred fashion, check out our selection of the coolest and most interesting design work on the web

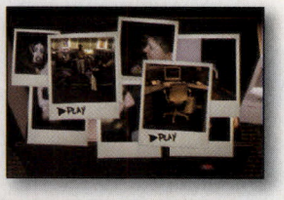
Bob's Cube

www.bobscube.com

Ever wanted to find out more about a firm before giving them your custom? This site for hosting company Hostway lets you snoop around a customer service rep's desk; there's plenty to uncover, including cluttered draws, and a diary that you can deface. "Most of us have spent time in an office environment, so it's a familiar set-up," says Mark Rattin, Creative Director at 15 Letters.

Bob's Cube is a viral campaign that's grabbing people's attention through its novel 'snoop 'n' surf' navigation. The animation is first-class, and the screen motion even better. It's an immersive experience, with the advertising message subtly embedded.





Grey Goose Vodka

www.greygoosevodka.com

Corporate sites for drinks can easily push the branding side of things too far, turning away visitors who are looking for nothing more than a bit of fun. Bacardi did a nice job with its Mojito site, and this site for Grey Goose Vodka has all the cocktail chic to make it much more than a one-trick pony.

The site is a great example of sleek Flash design, minimalist layout and (gasp!) valuable content. London-based Hi-ReS! has added a typically stylish touch to the site – visitors can mix their own cocktails, and see what the finished article should look like. In short, this is a functional and beautiful delight.

NOT SO SIMPLETON

www.notsosimpleton.com/2005

This site for artist Myron Campbell is as surreal as his work. The home page is divided into the left and right side of his brain, to show off different styles of art.

STAND UP DESIGN

www.standup.ca

Step into a world of Seventies' penthouse chic at this site for Design agency Stand Up. The relaxed lounge environment makes you want to stay and explore.

LEE JEANS

www.leejeans.com/home.asp

This site for the all-American jeans brand, Lee, uses a great mix of Fifties advertising nostalgia to show off its latest collection, which evokes the classic American college style. It's a tidy site, with simple, well-executed menus.

FIFA Street

www.fifastreet.com

It was only a matter of time before the FIFA football gaming franchise cashed in on the trendy urban football scene. FIFA Street lets you play a five-a-side in a variety of locations, from a New York basketball court to a dusty Brazilian favela, and this site from Lightmaker brilliantly captures the game's style. It shows off the game's stunning graphics to great effect, and gives visitors plenty of information without giving too much away. The loading icon of a footballer doing some neat tricks is a nice touch, and there's also a punchy intro sequence to get you in the mood.

Adidas

www.adidas.com/com/heritage

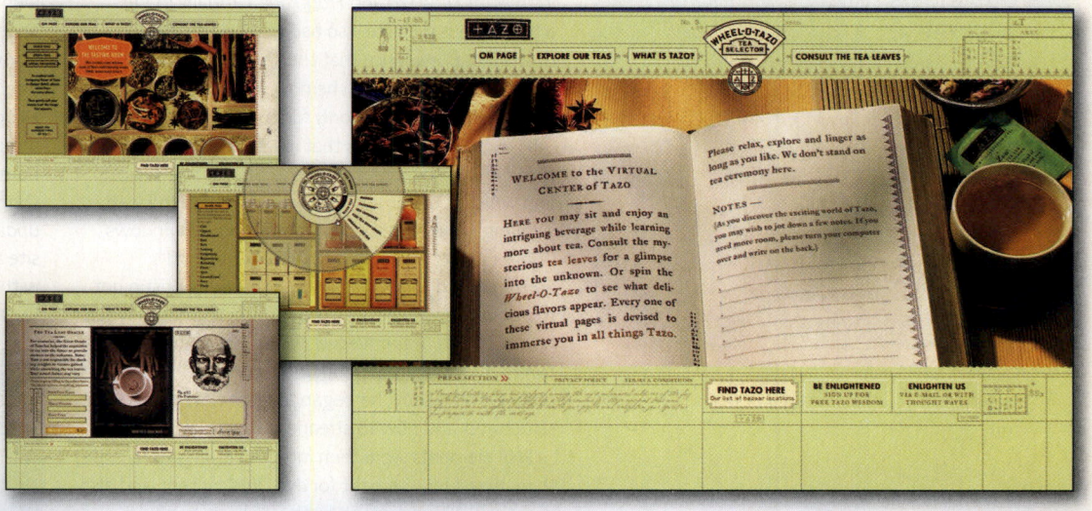
If you like the retro style of Seventies Adidas clothing, now it's back for real, and here you can see what the 2005 Fall/Winter collection looks like on some very modern models.

The core idea of the site is to create an interactive experience using high-quality video. "The site was deigned to impress a trendy, demanding target group, coinciding with offline ads by Karl Lagerfeld," says Olaf Czeschner, creative partner at Neue Digitale. "The visitor can choose how to view the collection: Movie Mode shows the collection with dancing models, Interactive Mode lets visitors pick which scenes they want to see, and Product Mode was created for those without broadband."

Tazo

www.tazo.com

You'll either love or hate Tazo's novelty teas. The herbal range includes spicy concoctions such as Awake and Zen, and its site is a similar infusion of quirky ingredients. Jon McVey, creative director at ZAAZ, says the challenge its designers faced was to bring the teas to life, so that visitors could "almost taste them". "We used animated effects, and served the cup in as large a format as possible," he explains. We also placed the aroma and flavour profiles in the cup, to nurture the idea that herbal teas affect multiple senses." The Wheel-O-Tazo is particularly slick, and takes visitors straight to the product details.


TAZO
ON PAGE
EXPLORE OUR TEAS
WHAT IS TAZO?
WHEEL-O-TAZO TEA SELECTOR
CONSULT THE TEA LEAVES
WELCOME to the VIRTUAL CENTER of TAZO
Please relax, explore and linger as long as you like. We don't stand on tea ceremony here.
NOTES —
FIND TAZO HERE
BE ENLIGHTENED
ENLIGHTEN US

PIMP MY BURGER

www.pimpmyburger.com

The modding craze goes back to basics with customised burgers. This site for the German Burger King chain is a fine example of fast food Flash.

DEDEDEDO

www.dedededo.com.ar

Dededeo is 'an online visual and narrative exploration of space, divided into conceptual modules' according to its author Ernesto Lavandera. What he means is that it's a site for showing off some great Flash animation concept art.

KANGAROOS

www.kangaroos.com/uk

Clean, colourful and with a clear message, this site for Kangaroos shoes is a neat example of how to maximise the use of broadband without going over the top. Great Flash animations introduce each section of the site, and it's a lot of fun.

A winning website, but it's not pretty

www.northshieldsrfc.co.uk

THE BRIEF

- **Give the site more visual punch. Kristin thinks his site lacks visual flair, and that it simply isn't striking enough. Therefore, we need to use all available methods to ensure that the site has maximum impact from the moment it downloads.**
- **Make the site more relevant visually. At the moment, the site hardly screams 'rugby' at you when you look at it – there are few images, and it lacks excitement and edge. We need to introduce more images and more of a sporting feel.**
- **Offer plenty of info. One of Kristin's main successes with the site is in dramatically increasing the number of visitors, largely due to the wealth of information made available, and this is something we need to be mindful of during the Makeover.**

North Shields RFC's website is packed with information, but falls down in the looks department. We set out to give it some visual punch...

Kristin Moat is an NHS physiotherapist from Northumberland and a keen rugby player. He's also a long-time web designer, hence his taking the reigns of the North Shields RFC website. The site has been online for about five years, and has had several overhauls during this time, but despite the ever-changing look, its aim has always been the same. "The site is simply a community site for all those people who are interested in the fortunes, functions and ins-and-outs of North Shields RFC," explains Kristin.

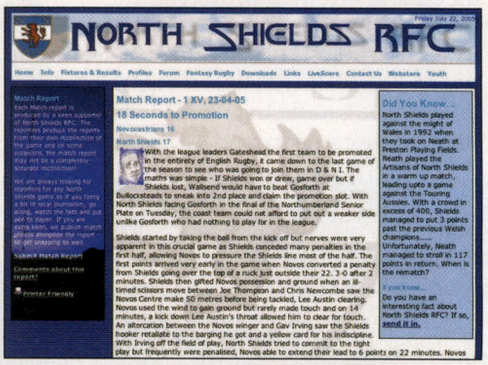
He says the current version of the site is designed to be "clear, packed with information and standards-compliant". But it wasn't always this way. "Armed with *Paint Shop Pro* and *FrontPage*, I initially made a horrendous website – so bad that, years later, I destroyed all evidence that the site ever existed," admits Kristin (although he now wishes that he hadn't been so hasty, if only for nostalgia's sake). "All I can remember was that it was designed with green and yellow buttons, and with as many bells and whistles crammed in as I could find on the web – scrolling news, JavaScript rollovers, pop-up windows, images galore and code you would cringe at!" Subsequent designs fared rather better, as Kristin got to grips with web design. The turning point was when he discovered *Dreamweaver*, which gave him the confidence to start looking at the code behind the scenes; pretty soon, he began to learn how pages were structured, and how to streamline a site.

PHP elements were then integrated, largely because there was a requirement for dynamic content, and also because PHP happens to be free. "Like all hobbyist designers, I lack finances, so free things are good," says Kristin. Around this time, Kristin, armed with a number of web-standards-oriented books, started experimenting with CSS, rather than tables for website layouts. He invested in *Dreamweaver MX 2004* – "my one extravagance" – in order to be able to have an application to hand that could assist him in using all these varied and complex technologies, yet provide him with the control he sought. Despite all his efforts, however, Kristin still feels that the site falls short in a number of areas.

"I'd really like to have a less 'blocky' look, while retaining the things I've built in or imported." he explains. And, while the site is packed with information, it doesn't have any punch to it; the site simply isn't striking enough, so that's something I'd really like to see change." Ultimately, his wish is to have a site that "represents a dynamic rugby club with a friendly, welcoming nature – a site that inspires other people to join the club".

"Content-wise, the site's largely fine, as proven by the fact that it attracts some 25,000 hits a month"

Ultimately, then, this is a Makeover that's all about giving the site a new visual identity that will make it, and by extension the club, appear more dynamic and exciting, and which will attract more people. Content-wise, the site's largely fine, as proven by the fact that it attracts some 25,000 hits per month, up from a mere 800 just 18 months ago. There's plenty of information on the home page, including an interactive poll, various shortcuts and news items, all of which is regularly updated. However, Kristin says he wants to make the site accessible to a wider audience, as well as those with a vested interest in the club, so there are a few tweaks we'll be making in the area of content, too.



The site is clearly a labour of love, with attention to detail and content that would shame many professional sites

HOW IT LOOKED THEN

Before

The site is packed with information, but looks are just as important as content; the design is a little too boxy, with poor use of photos and the club's logo

✗ Drab visual design

Kristin is right that the site feels boxy. A certain amount of 'boxiness' is unavoidable in web design, but here it's just a little too overt, and Kristin seems to have accentuated the modular nature of his design by separating elements of it, and by using rectangles bordered in strong, dark colours.

✗ Poor use of logo

In many sports, a club's logo is a team's pride and joy, but here we find the North Shields RFC shield banished to the top-left corner of the design, shrunk to a tiny size and dwarfed by the massive club name that sits next to it. The badge is memorable, so it should stick in people's minds.

✓ Straightforward navigation

Although Kristin's a little worried that the navigation doesn't entirely validate, it works well enough in a range of web browsers, and it's driven by XHTML lists, which means it's easy enough to update. Some of the page titles are a little suspect, however, and we're not happy that external links aren't flagged.

NORTH SHIELDS RFC
Monday July 18, 2005
Home Info Fixtures & Results Profiles Forum Fantasy Rugby Downloads Links LiveScore Contact Us Webstore Youth
All Downloads
Wallpaper
Season End CD
Latest Forum Posts
Profile of the Week
Search
Web
North Shields RFC
Search
Choose a Style
Default
Select
Top Rugby Links
Planet Rugby
Rugby Football Union
BBC Sport - Rugby
Scrum.com
North Shields Rugby Union
North Shields Rugby Football Club
New News Feature by Fizzio
I have now created a RSS news feed for the news on this site. There are a couple of ways you can use this if you want to syndicate our news. You can import this news to your site (http://www.northshieldsrfc.co.uk/news/news.xml), or point your link to Feedburner News
Comments: 0 (Add Comment)
Training by Tubbs
Pre-Season training starts Tuesday 14th June at 7.00pm.
Comments: 0 (Add Comment)
Youth Presentation and Training by Youth
On 29-May-2005, North Shields celebrated a successful season with the u10 presentation at North Shields RFC. Medals were given out to all squad members and special awards were presented to Connor Tubman (Player of the Year), Elliot Fausan (Players' Pla) and Joey Clark (Most Improved Player) by 1xv Captain Marcus Cockburn.
Look out for the full report in the local press (News Guardian, Herald and Post a d maybe others!) next week.
Training starts again on Saturday's starting at 14:00 at North Shields RFC. All we come - bring along a friend!
Comments: 1 (Add Comment)
2005-06 Strips Uncovered by Fizzio
The 2005-05 strips are in provisional design. Have a sneak peek at them here in the webstore. The 2005-05 strips are now available from the webstore for £42.00. Get yours NOW to show your support for the club for the next season in D and N I.
Comments: 1 (Add Comment)
NSRFC Poll
How will North Shields fare in D & N I
Promotion!
Top 3
Top Half
Bottom Half
Bottom 3
Relegation
Vote
View Results
Previous Polls

✓ Regular updates

Some sites don't need to be updated all that often, but any sports club's website thrives on up-to-the-minute information, so it's heartening to see that the site's updated regularly, with information being added even before a new season has begun!

✗ Lack of photographs

One of the main aims of the site is to attract people to join the club, and one way of doing that is to show club members in action, playing the sport. However, apart from the profile mugshot and ineffective banner, the home page is pretty much devoid of imagery.

✓ Huge amounts of information

We're not kidding – Kristin is certainly taking his role as webmaster for this site seriously! The site contains all the usual information – the club's history, the odd profile, fixture lists and so on – but it rises above typical 'hobbyist' sports sites, due to its match reports, news items, galleries and interactive elements.

HOW IT LOOKS NOW

After

The logo has been put to better use in the masthead, and action photos have been used both there and elsewhere on the page. We've also got away from the 'boxy' feel

Better use of logo

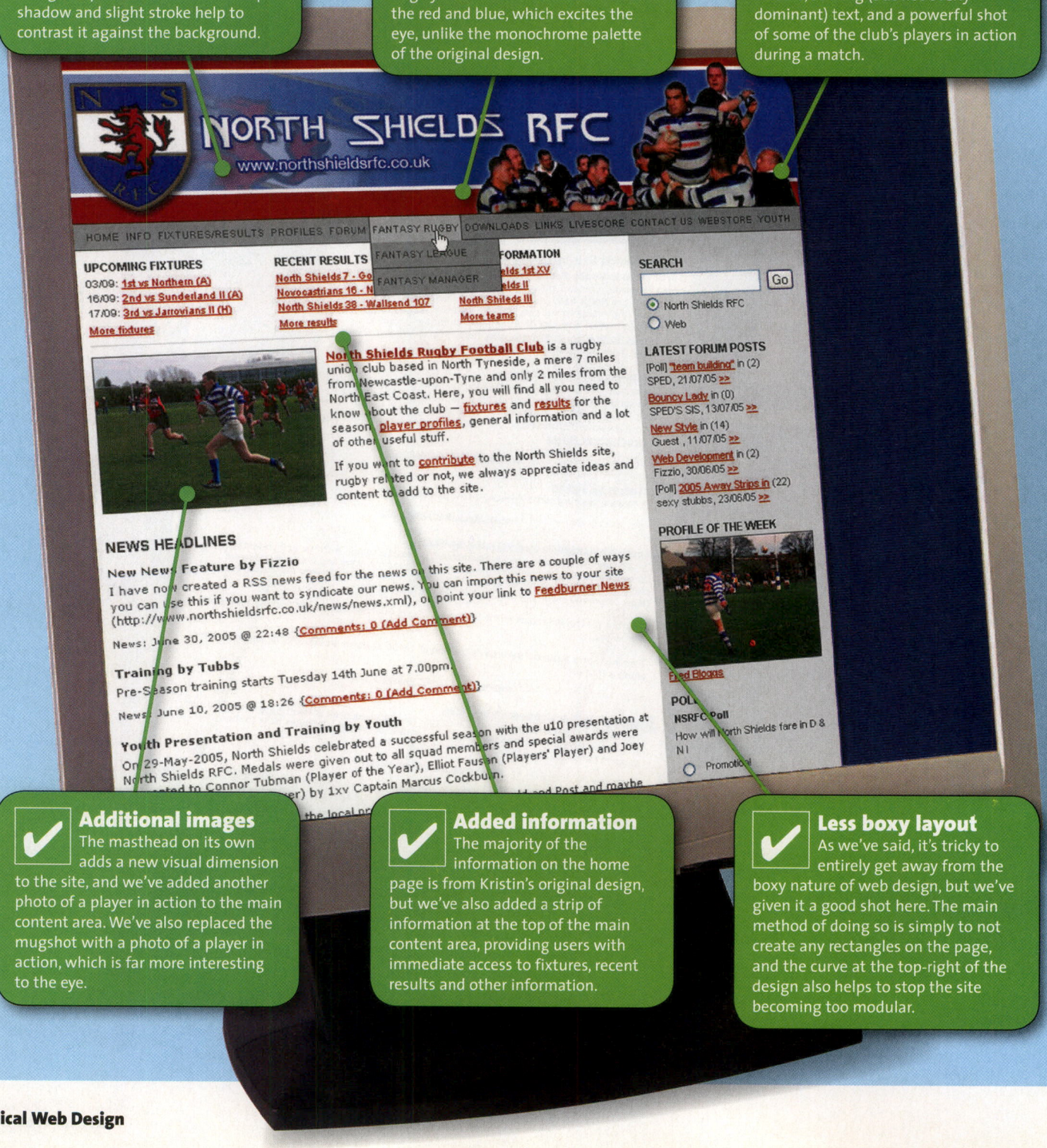
Despite starting out with a low-quality shot of the club's logo, we were nonetheless able to make it look great on the home page. The colours are bold and striking, and the logo really stands out, rather than being overpowered. The subtle drop shadow and slight stroke help to contrast it against the background.

More colour

The club's logo has some bold colours, so we used the blue, white and red as the basis for the site's colour scheme. This resulted in the kind of striking look that was lacking in Kristin's effort; this is largely down to the contrast between the red and blue, which excites the eye, unlike the monochrome palette of the original design.

Improved masthead

The old masthead was essentially the site's logo and name on some clouds, and it hardly put you in mind of an exciting, rugged sport. Therefore, we've created an entirely new masthead, with bold colours, striking (but not overly dominant) text, and a powerful shot of some of the club's players in action during a match.


NORTH SHIELDS RFC
www.northshieldsrfc.co.uk
HOME INFO FIXTURES/RESULTS PROFILES FORUM FANTASY RUGBY DOWNLOADS LINKS LIVESCORE CONTACT US WEBSTORE YOUTH
FANTASY LEAGUE
FANTASY MANAGER
UPCOMING FIXTURES
03/09: 1st vs Northern (A)
16/09: 2nd vs Sunderland II (A)
17/09: 3rd vs Jarrovians II (H)
More fixtures
RECENT RESULTS
North Shields 38 - Wallsend 107
More results
North Shields III
More teams
SEARCH
Go
North Shields RFC
Web
LATEST FORUM POSTS
[Poll] "team building" in (2)
SPED, 21/07/05
Bouncy Lady in (0)
SPED'S SIS, 13/07/05
New Style in (14)
Guest , 11/07/05
Web Development in (2)
Fizzio, 30/06/05
[Poll] 2005 Away Strips in (22)
sexy stubbs, 23/06/05
North Shields Rugby Football Club is a rugby union club based in North Tyneside, a mere 7 miles from Newcastle-upon-Tyne and only 2 miles from the North East Coast. Here, you will find all you need to know about the club – fixtures and results for the season, player profiles, general information and a lot of other useful stuff.
If you want to contribute to the North Shields site, rugby related or not, we always appreciate ideas and content to add to the site.
NEWS HEADLINES
New News Feature by Fizzio
I have now created a RSS news feed for the news on this site. There are a couple of ways you can use this if you want to syndicate our news. You can import this news to your site (http://www.northshieldsrfc.co.uk/news/news.xml), or point your link to Feedburner News
News: June 30, 2005 @ 22:48 {Comments: 0 (Add Comment)}
Training by Tubbs
Pre-Season training starts Tuesday 14th June at 7.00pm.
News: June 10, 2005 @ 18:26 {Comments: 0 (Add Comment)}
Youth Presentation and Training by Youth
On 29-May-2005, North Shields celebrated a successful season with the u10 presentation at North Shields RFC. Medals were given out to all squad members and special awards were
PROFILE OF THE WEEK
Feed Blogs
How will North Shields fare in D & N I
Promotion

Additional images

The masthead on its own adds a new visual dimension to the site, and we've added another photo of a player in action to the main content area. We've also replaced the mugshot with a photo of a player in action, which is far more interesting to the eye.

Added information

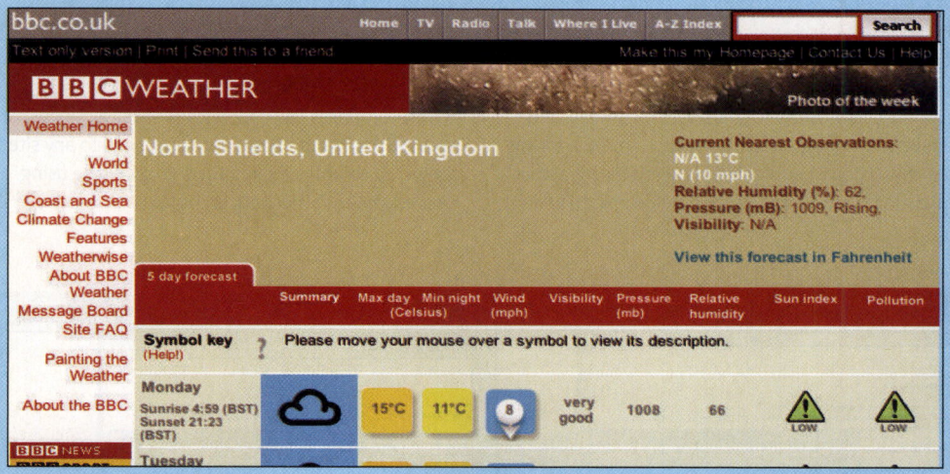
The majority of the information on the home page is from Kristin's original design, but we've also added a strip of information at the top of the main content area, providing users with immediate access to fixtures, recent results and other information.

Less boxy layout

As we've said, it's tricky to entirely get away from the boxy nature of web design, but we've given it a good shot here. The main method of doing so is simply to not create any rectangles on the page, and the curve at the top-right of the design also helps to stop the site becoming too modular.

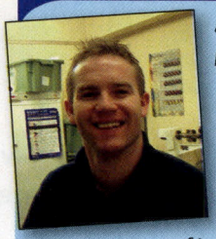
TOP TIPS

The image accompanying this tip is, as you've probably noticed, a picture of the BBC Weather page. Now, you might be wondering what on earth this is doing in a Makeover article about a rugby site, and that's exactly what we thought when we clicked a navigation link on Kristin's home page and were unceremoniously dumped on a totally different website. Now, we're not advocates of the old designer's trick of opening up external websites in new windows; that sort of thing should have gone out with the ark (but sadly didn't), because it wrecks history paths and is a big accessibility no-no. Kristin avoids that here – the external sites open in the same window; however, he commits a different design crime instead, failing to warn the user that a link is about to go to a different site. This wouldn't be quite so problematic if such a link was in the body of a web page, but it's extremely jarring when it's one of the site's main navigation links. If you must place external links within your navigation, at least ensure users are aware that they're about to be taken to a new site.



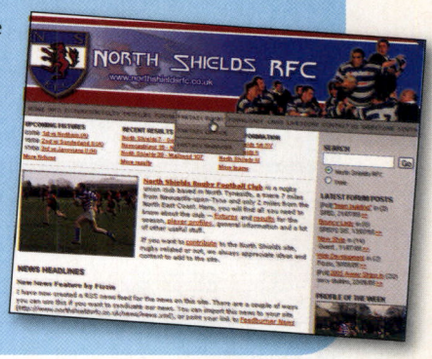
Linking to the weather forecast for the big game is a nice idea, but do tell your users where links will take them

OWNER'S VERDICT



"My first impression of the Makeover was 'nice masthead'! It's far more striking than the current one, and it clearly tells visitors that the website belongs to a rugby club.

"I like the overall look of the site; it's clean, clear and very easy to read, with better use of images. However, there are a few things that I will most likely tweak. I prefer sites that are centred, rather than those that are tucked tight to the left-hand side of the browser window, so I may change this, and I'd also like the news headlines to be a little more prominent. Also, as we don't publish team information on a weekly basis (as it changes quicker than I can!) I probably won't keep that section on the home page, and will replace it with something else. Having the upcoming fixtures and latest results on the home page is a great idea, though, and this is something that I'll definitely be keeping, as well as a vast amount of the Makeover."



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one developer

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KATATOMIC
www.katatomic.co.uk/rawtalent

Here's how we did it...

For this issue's walkthrough, we're going to show you how we fashioned the masthead image, and also how we created the info stripe at the top of the main content area

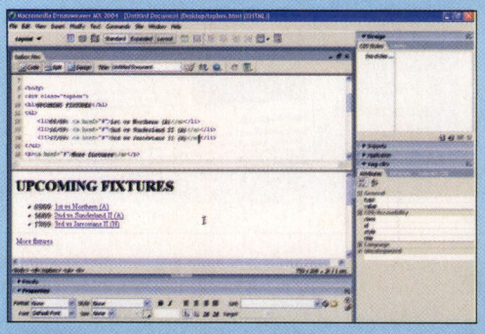
Strong imagery attracts, and is often used to grab people's attention, especially when an item (be it a book, magazine, CD or website) is surrounded by numerous others. The effects of powerful, professional-looking imagery can rub off on whatever the imagery is attached to, but the reverse also happens to be true, and a great-looking item with weak content is more likely to be explored than a poor-looking item with great content.

As you've already seen, Kristin's original site was an example of the latter: a site that didn't look like much, but that had loads of great content – it just needed a look that would grab people's attention. Therefore, much of this Makeover was spent creating a visually exciting masthead that would put you in mind of the game of rugby.

We used *Photoshop* to create the masthead, and we take you through the entire process on the facing page. If you don't own Adobe's powerhouse graphics application, don't worry; you should be able to follow most of the walkthrough steps regardless of the graphics editor you use, although the exact methods and commands may vary.

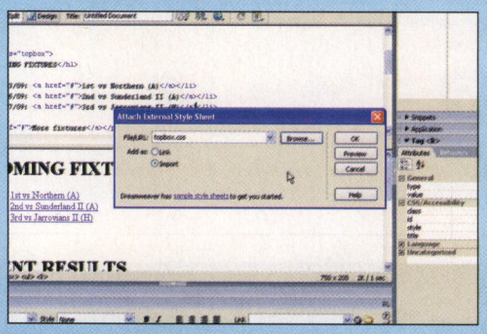
Our first walkthrough takes more of a practical, web-building approach, showing how we put together the information area at the top of the content area, which comprises three identically sized sections. The method for making these can be applied to any site for which columns are required, and we'll be using *Dreamweaver* in the walkthrough.

CREATING THE INFO AREA



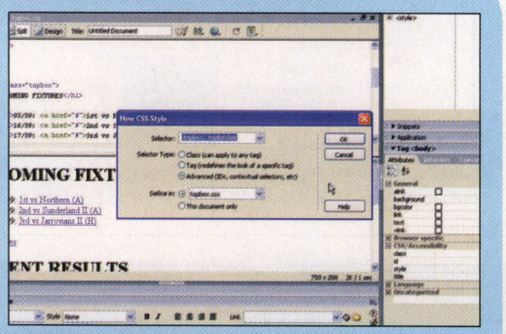
1 Add divs and content

Add three divs to the page, one after the other, using the Insert bar's Insert Div Tag button (from the Layout section). For the first two, set the Class value to topbox; for the third, set the Class value to topboxlast. Add some content to each box and format it (our example divs each have a level-one heading, a three-item list and a paragraph).



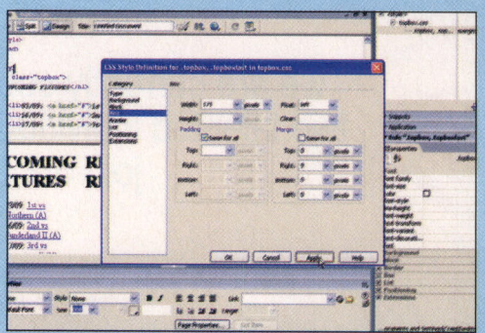
2 Attach a style sheet

Go to File > New, create a new basic CSS file and save it as topbox.css. Click the Attach Style Sheet icon at the bottom of the CSS Styles panel, select Import in the dialog box and use the Browse button to select topbox.css. Click OK.



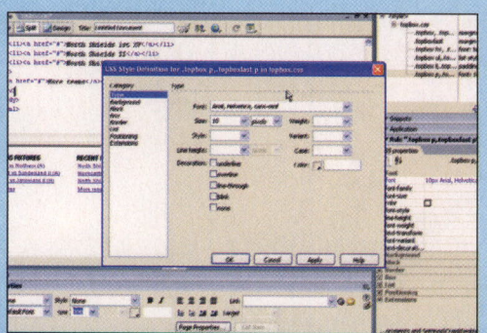
3 Add a style

Click the CSS Styles panel's 'New CSS Style' button, and select topbox.css from 'Define in' and Advanced from 'Selector Type'. Type '.topbox, .topboxlast' in the Selector field. Property values from the next step will then be applied to all of the divs created earlier. Click OK to bring up the CSS Style Definition dialog box.



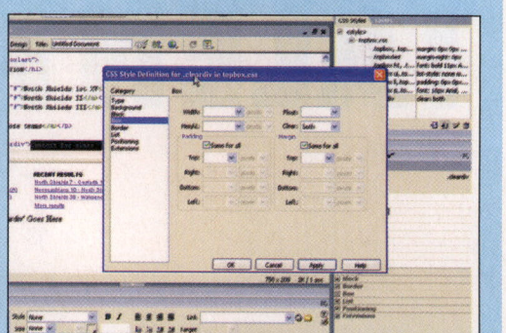
4 Add properties and values

Select the Box category, and set Width to 171 pixels, Float to 'left' and deselect 'Same for all' under Margin. Set Top, Right, Bottom and Left to 0, 9 pixels, 0 and 0 respectively. Click OK. Create another CSS style, but choose Class as the selector type and type '.topboxlast' in the Name field. For this style, just set the Right value of Margin to 0.



5 Add more styles

Using similar methods, the div contents can be styled by setting property values for the Advanced selectors '.topbox h1, .topboxlast h1', '.topbox ul, .topboxlast ul', '.topbox li, .topboxlast li', and '.topbox p, .topboxlast p'. Use the Type category to edit font details and the List category's Type property to set the bullet type ('none' to remove it).



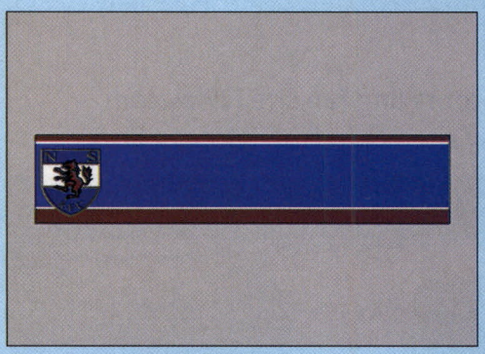
6 Add cleared content

Subsequent content wraps around floated content; to avoid this you have to 'clear' the floated elements. Create a new div under the others with a Class value of 'cleardiv'. Create a new CSS style (selector type Class and Name value '.cleardiv') and set Clear in the Box category to 'both'. The 'cleardiv' content should then sit under the floated columns.

CREATING THE MASTHEAD

1 Clean the badge

The only image of the club's badge Kristin has is a GIF taken from a photo, and its quality leaves a little to be desired. However, with careful use of *Photoshop's* Adjustment commands the colours are made more striking; and because the image is reduced for the masthead, the jagged edges of the transparent GIF blur and disappear.

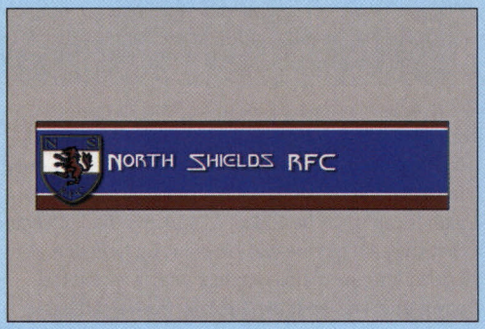


2 Add some stripes

The masthead on the old site had a cloudy background image that wasn't related to the club at all. Here, we've used the red, white and blue colours from the badge to create some dynamic-looking background stripes for the new masthead. Already, this design is looking visually striking – which was Kristin's main request.

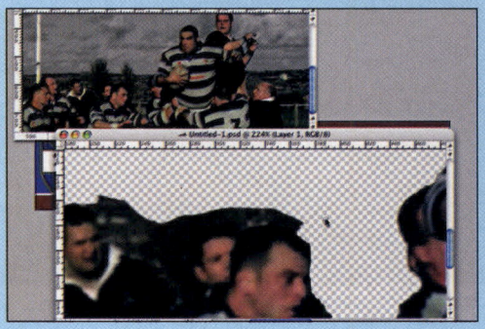
3 Grab the text

The font Kristin used works well, but we don't have it installed; however, we can still use it! The Magic Wand Tool is used (with an antialiased, non-contiguous selection) to grab the text, which is copied to a new document. Brightness/contrast is used to turn this white, and the result is copied to the masthead and shrunk.



4 Add some effects

The shield and the text are a little lost in the background stripes, so some subtle effects are needed. A drop shadow is used to lift the logo from the page. For the text, a drop shadow is also used, although it's more transparent, making the text less intrusive than on the old site. A blue, one-pixel stroke around the text completes the effect.

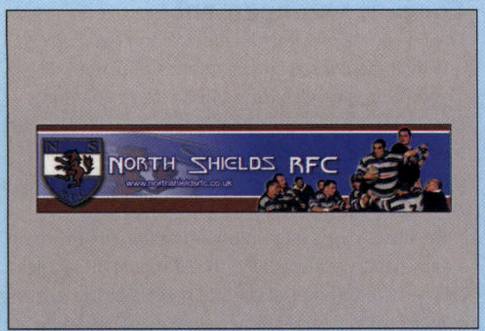


5 Find and edit an image

We want a photo in the masthead, too. After scouring Kristin's galleries and downloads, we happen upon a line-out photo that should work fine. This is copied to a new document, and a soft-edged Eraser Tool is used to remove the background; as the image is so much bigger than the masthead, the edges don't need to be very precise!

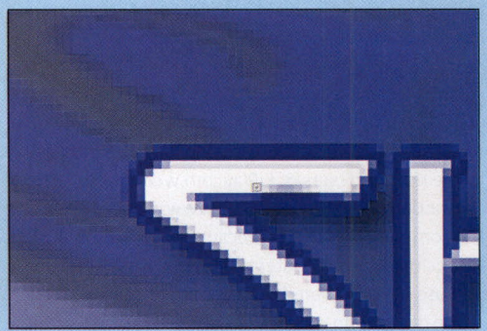
6 Place the image

Once the background is gone, the line-out image is copied to the masthead graphic and (proportionately) resized until it fits within the design. The two 'airborne' players fit nicely into the gap on the right-hand side of the masthead. In order to make this graphic stand out a little more, a subtle Outer Glow effect is applied.



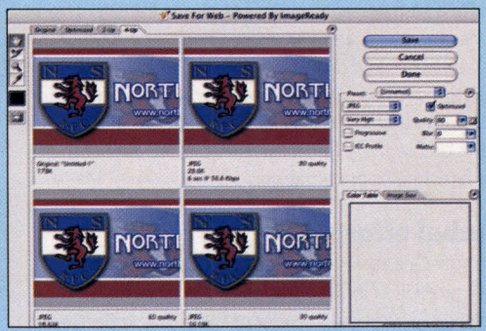
7 Add a background

The left-hand side of the masthead is still lacking something, so we copy the shield and skew it's perspective. The resulting image is then blended into the background by using a layer mask. The site's URL is also added, in the hope that it'll make more people remember it.



8 Make final tweaks

Although the text copied earlier largely works fine, it still has some irregular edges; these are fixed by zooming in, and painting the gaps with the Pencil Tool. A few pixels of background not removed in Step 5 are hunted down and erased, to complete the image, which is saved as a layered file, in case it needs further editing in the future.



9 Export the image

The image is flattened, and exported for the web. Because it includes photographic elements, JPEG is the best format. Also, because the image is used on every page, but will be cached, the quality setting can be quite high. Due to the size of the masthead, it's exported in two sections, which may make the download seem faster, even if it isn't.

F1Play.com

Ted Dobrzynski, the founder of motor racing fan site F1Play.com, explains how building a stylish new site was a truly global effort

F1Play has its own F1 Babes section, and visitors to the site can vote for their favourite 'babe'. Here, Paris Hilton soaks up the sun at this year's Monaco Grand Prix

Formula One is the pinnacle of motorsport, and arguably the most glamorous sport in the world. The web has plenty of sites dedicated to the roar of the engines and the pitside gossip, but F1Play.com includes a number of interactive elements, and there's also the chance to win dozens of prizes every day.

Having followed F1 for several years we wanted to give something back to the fans, so we decided to create a web portal that would unite F1 followers from across the globe, and give them something more than just statistics and race photos. Now going into its fifth year, the site has continued to grow, and has evolved into a meeting place where fans can express their views on our lively forum, and keep up to date with the latest news and images.

Global effort

Formula One racing has a truly international appeal, with races held in 18 countries this season and fans scattered across every corner of the globe. Reflecting the cosmopolitan nature of the sport, F1play is a truly global site; it was conceived in Canada, designed in Germany, and engineered in Scotland.

We knew that it was important for our new site to be visually impressive, and 24-7 Media (**www.24-7media.de**) was asked to create the design and layout. With many of its designers being F1 fans, and with an office close to the Hockenheim circuit in Germany, 24-7 was well placed to be at the heart of Formula One, and to create something that would get visitors hooked from their first visit.

We knew 24-7's strengths were in developing richly textured and atmospheric websites, but our goals were a bit different; the new site had to remain as faithful as possible to the previous layout with regards to colour scheme, content windows, navigation links and other elements. 24-7 decided to bring a touch of glamour to the site graphics and come up with a new navigational concept. The company also created the racy F1Play vehicle icon, changed the logo and added an atmospheric soundtrack. Although some elements may appear as if they were created using 3D software, everything you see was built using *Adobe Photoshop*.

The nuts and bolts of F1Play.com were put together by Edinburgh-based AmberFly (**www.amberfly.com**). The company was chosen because of its expertise in producing dynamic content-managed Flash sites, and because its staff shared our passion for motorsports.

The design and build of this site was an interesting challenge, not least because all the companies involved were based in different countries. Ensuring that there were strong channels of communication between everyone was vital to the success of the project. Thanks to *Skype* software, this international collaboration had very little impact on our costs, and enabled AmberFly to always be in contact.

AmberFly started out by building the main interface for the site in *Flash*, rebuilding the *Photoshop* template supplied by 24-7 piece-by-piece, before focusing on building each of the site sections. The site is designed to be expandible, so that new competitions and games can easily be added, so AmberFly had to ensure that the architecture was modular. Each section was loaded into the main container interface, and the navigation was built dynamically from a database; this means new sections can be deployed without any changes having to be made to the main site files.

The first task was to make sure that all the sections we were adding to the site were in keeping with the design concept from 24-7. In each instance, AmberFly worked out the functionality of the section, created a mock-up in *Photoshop* and uploaded it to their development server.

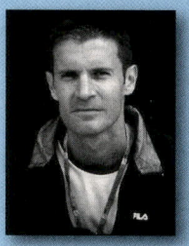
Content management

The F1Play site already had more than 1,200 high-quality images from Sutton images, and around 3,000 professionally written news items spanning five seasons of Formula One. AmberFly was very keen to keep all the existing content, and it was quite a challenge designing new interfaces around existing information structures.

Because there's a team updating the F1Play site on a daily basis, we all decided that it would impact less on the maintenance of the site if we kept the existing content management system in place. This would also enable us to switch from the old to the new site without any downtime, and it meant that nobody needed to spend time getting used to a new system.

When all of the elements were put together, and the site was launched, we were overwhelmed by the response and the recognition it received. So far the site has received accolades from FWA Site of the Day, dopeawards.com and internettinyawards.com. It was also Site of the Month on Flash Loaded's showcase. ■

PROFILE



Ted Dobrzynski

OCCUPATION CEO and founder of F1Play.com
COMPANY F1Play Inc
WEBSITE www.f1play.com

Ted Dobrzynski has been a devoted follower of Formula One racing since 1994, and his passion for the sport led him to found the internet-based company F1Play.com in 2000. The major focus of the site was to provide the ultimate online resource for Formula One fans. Ted follows the F1 championship around the globe, from one exotic location to another, to ensure that the site is updated with all the latest information. Nice work if you can get it!

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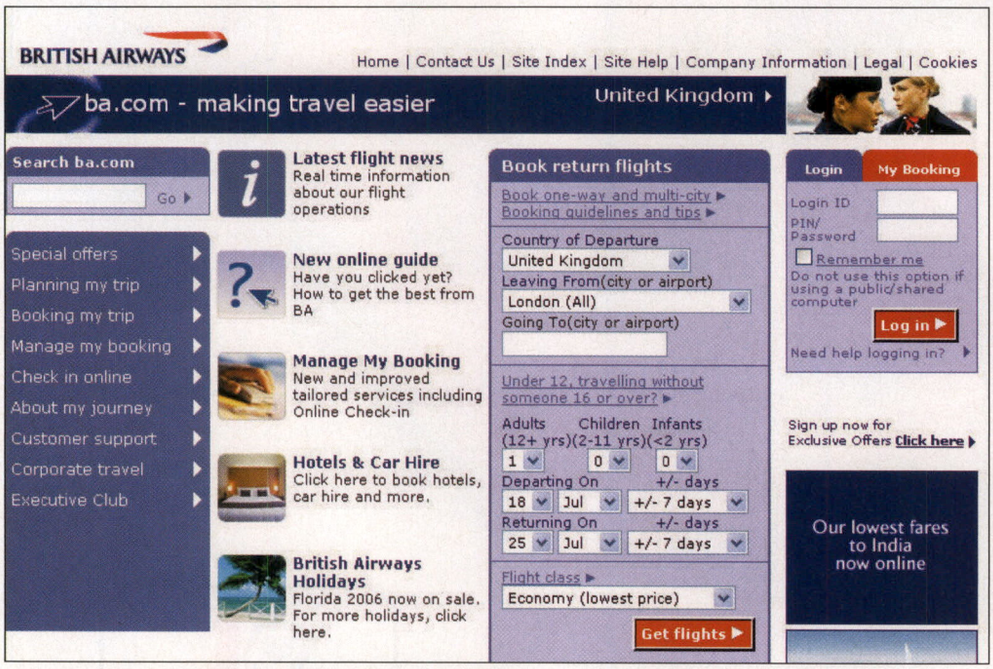
Product manager Simon Parks-Smith explains how British Airways' new site took to the web



In addition to letting customers book flights, the ba.com site offers everything from car hire to live flight updates

In 2001 British Airways decided to completely overhaul its website, and make it the single biggest contact point for its customers. Since then ba.com has been one of the biggest drivers for change throughout the company, and has transformed the way BA sells tickets and interacts with customers. The growth of the internet has revolutionised the business, as we've striven to simplify our processes and eliminate layers of complexity; our online customers demand clear information tailored to their specific travel needs.

The customer is at the centre of BA's innovations and developments, and customers told us they enjoyed flying with us, but were looking for ways to reduce the time spent searching for flights, finding information about their journey and queuing at the airport. Travellers see the time spent at the airport as an extension of their trip, and want to enjoy it as much as possible. British Airways has invested more than £60 million in the last three years in ba.com, and has made considerable progress in making the entire travel process much easier. New procedures enable the consumer to use their time more effectively, giving them a better overall experience with us.

Currently more than 1.5 million customers visit the ba.com site every week, which is twice the number of passengers that fly with the airline every week, and this shows that customers regard the website as a major source of information.

Initially, there were two main focuses for our site: selling tickets, and managing our Executive Club relations online. British Airways has also invested heavily in a unique online pricing-led calendar system, which will find customers the cheapest fare and enable them to compare prices over a whole month. Online revenue has more than doubled in the last two years. In 2001, just three per cent of bookings were made on ba.com; online bookings account for some 20 per cent of total bookings – the highest level of any full service carrier. For our most loyal customers we've automated almost all of our Executive Club processes to enable members to service their account with us at any time of the day or night.

Pre-flight checks

Our next step was to encourage all our customers to visit ba.com before they leave home as their first step in their journey, and this remains our key ambition looking forward. We've developed a number of web services to help customers prepare for their trip and manage their travel plans, providing them with opportunities to carry out many of the pre-flight steps they'd otherwise have had to do at the airport.

We recently relaunched the Manage My Booking section, which recognises a passenger's flight details and displays information pertinent to their particular trip, such as how many bags they can take on the flight. A checklist option enables customers to view a handy point-by-point list of items that will help ensure their trip goes without a hitch.

Customers can also request a seat or special meal, change their booking, and enter Advance Passenger Information before travelling to the United States.

PROFILE

Simon Parks-Smith

OCCUPATION Head of product management
COMPANY British Airways
WEBSITE www.ba.com

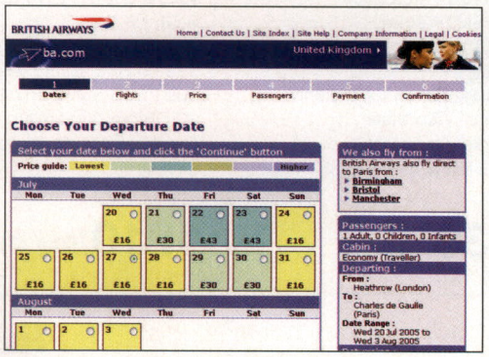
Simon is responsible for the product and brand portfolio for British Airways, and is responsible for defining and developing the customer experience at every point of the journey. This includes ba.com, on-board products and the airline's loyalty programme, the Executive Club. Prior to this role, Simon managed BA's ecommerce division, and led the airline's Customer Enabled BA change programme. Simon joined BA in 1991 as a graduate trainee.

Today more than a third of customers visit ba.com before they fly, representing a 140 per cent increase over the last year. We hope to increase this figure to more than 50 per cent over the next year.

As the day of travel approaches and passengers prepare to go to the airport, our online check-in and online boarding pass services enable them to avoid queues at the airport. From 24 hours before their flight is due to depart, customers can spend a couple of minutes checking in online, and use an interactive seat map of the aircraft to pick or change their seats.

To compliment our online check-in facility, British Airways has invested significant resources in installing an easy-to-use system that enables passengers to print their own boarding pass from their home, office or hotel, enabling them to bypass the check-in desks.

Giving more choice and interactivity to the customer ensures that every passenger gets the service they want. Enabling them to take control of their seating and check-in procedures means customers who use the website will save time, and suffer less of the stress that can be involved with travel. ■



The booking pages at ba.com show customers a clear calendar-style display of available dates and ticket prices

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On the cover CD

- You'll find all the full-size images we preview here

Handy images for your sites

100 outstandingly beautiful images of the natural and human environments from four top agencies

This month we're pleased to bring you 100 truly stunning images from four of the best images agencies in existence. The images fall into two broad categories – natural and industrial. In addition to a number of wonderful high quality photographs of the natural environment – plants, water, landscapes and shells – you'll also find dozens of images representing man's influence on nature and nature's influence on man.

The collection starts off with 25 images from StockVault (**www.stockvault.net**), all of which are immediately eye catching. From close-ups of plants and leaves to meaningful shots of weathered wood and metal, StockVault provides a series of powerful images that reflect the world around us.

The 30 images from Image*After (**www.imageafter.com**) are similarly contrasting, showing the real beauty in both natural and manmade objects. Images of handsome stone spiral staircases perfectly illustrate man's use of nature, rusting metal poles exemplify nature's uncontrollable characteristics, while foliage shots show nature in its purest form.

20 images from BigStockPhoto (**www.bigstockphoto.com**) are presented in a rich palette of colours, and simplicity is the order of the day with the collection of 25 images from Cepolina Photos (**www.cepolina.com/freephoto**) where simple close-ups of flowers are allowed to speak for themselves and stand in stark contrast to circuit boards and dilapidated cars.

These collections of images will help to bring any website to life, instantly adding colour and meaning. They are all provided royalty free, so you can use them in both personal and commercial capacities. ■

www.stockvault.net
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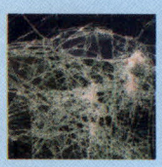
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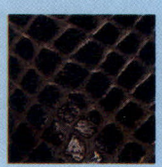
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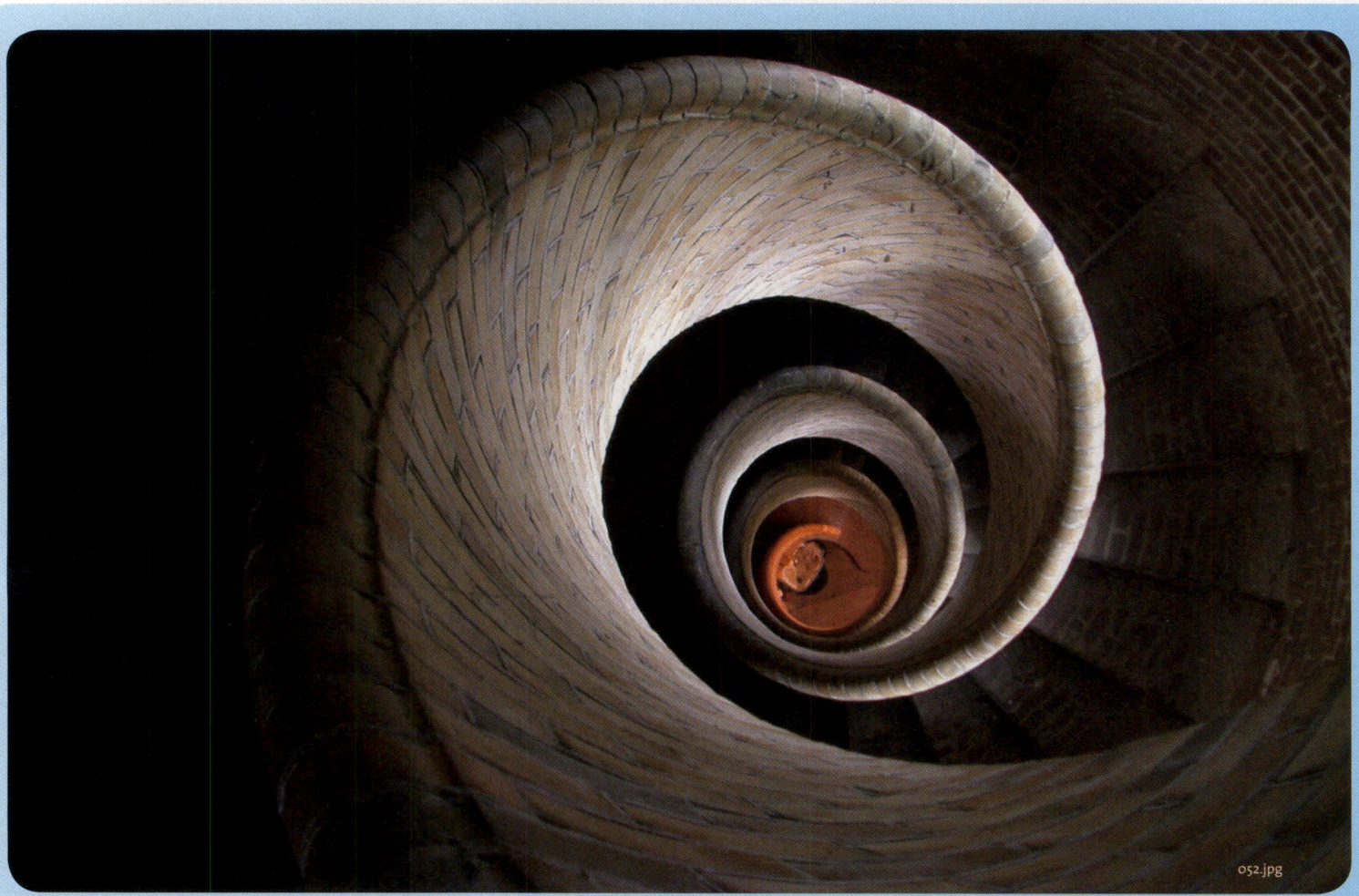
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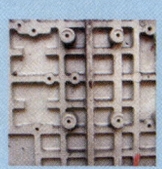
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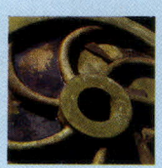
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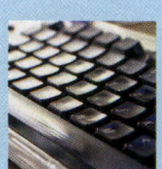
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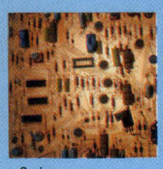
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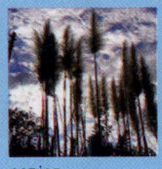
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Plan the perfect website

We tell you everything you wanted to know about the non-building aspects of website creation, but were afraid to ask...

The majority of features you see in web design magazines tell you how to deal with building a specific element of a website, be it an animation, a navigation bar or some graphics. In some cases, you'll even get walkthroughs for getting an entire basic site up and running. This article is different, although no less important – instead of showing you how to create component parts for a website, we'll be talking about everything else you need to do for your project to be a success.

The feature begins by checking out what you need to be aware of before you power up your PC or Mac. It's vital to understand how to plan what your site is going to contain, how it's going to be accessed by your audience (and how to ensure they'll understand how to use it), and to know how to rapidly come up with ideas for content and structure. Therefore, we'll provide plenty of tips to get you started. We'll also take a brief look at copyright (everything on the web most definitely isn't up for grabs) and a few issues relating to domain names.

After this, we'll show you how to use *Dreamweaver* to set your site up, along with providing filing and organisation tips for dealing with files that are related to your website, but aren't actually part of it. The final part of the feature deals with what happens when your site is complete. Unless your creation is a one-off standalone project, chances are you'll need to maintain it, so we'll provide a number of time-saving tips related to site management and maintenance, again largely using *Dreamweaver* as our application of choice.

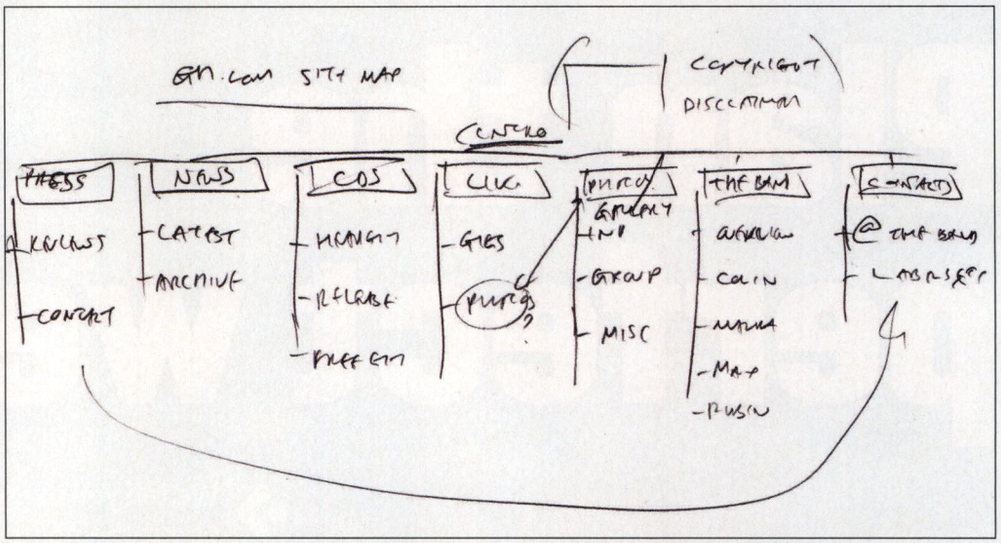
image: Eelco van den Berg/Advocate Art

Planning a website

Before you even launch Dreamweaver or Photoshop, there are a number of things you need to do to ensure that your site will be a success...

The Undo command seems to have become everyone's best friend. However, it's something of a double-edged sword. While it's true that a digital artist no longer has to take quite so much care when inking or colouring work (after all, every mistake can be corrected with ease, without having to start again), it's also true that designers and artists now tend to plan less than they used to. Although an improvised workflow – just seeing where something goes – sometimes pays dividends when working on artwork, it rarely leads to a successful website, because websites need to both look good and be usable.

To that end, it's vital to carefully plan your site. Generally speaking, it's a good idea to stay away from your PC or Mac until you know what it is you're creating. If you don't, you could end up with a direction-less site – all bells and whistles, but lacking a focus and raison d'être. Therefore, get out your A4 pad and a trusty biro, and brainstorm.



A basic site map can enable you to figure out your site's structure and get feedback about it from others

Form and function

The first thing you need to do is decide on the purpose of your website. A site's purpose is often reflected in its design: shops tend to be straightforward; blogs tend to eschew fancy design in favour of words; while sites for bands, for example, tend to be stylish and visually appealing – as they are aimed at younger markets, they needn't be quite so straightforward to use as a site that's intended for all. More importantly, if you don't know why you're making a site, why bother? So, decide on a central theme for your site, even if that theme is quite basic or broad. Examples include: a personal site to share your thoughts and ideas with the world; a fan site about a favourite actor or TV show; an online store to sell your own home-made produce; a handy links and information repository about a specific area of expertise.

Once you have an idea about what your website is going to be about, draw a spider diagram with your site's main theme in the middle, and lines to each major feature that you'd like to be associated with it. This could be a concept, an idea for a section of navigation, the sort of content associated with an area of the site, magazines and books that might help with research, and so on). Now branch off from each of these nodes, filling the paper as rapidly as you can. Don't think too much – just write as fast as you can, because you can hone things down once you have a large amount of information to pick and choose from.

When you have a list of things related to the site, you need to start organising this information.

THOU SHALT NOT STEAL...

Just because something is on the internet, that doesn't mean that it's up for grabs. In fact, it usually means the opposite. The immediate availability of digital media has led many to believe that anything on the web is (or at least should be) free. Fancy a copy of a new album? Just download it. Didn't get time to watch that latest Hollywood blockbuster? Find it on P2P, download it then burn it to disc.

Now, we're not going to go off on some kind of piracy rant here, but we are going to ensure that you know right from wrong when creating a website. We've seen loads of sites where people have literally cut and pasted images and code from somewhere else, but copyright exists on the web the same as everywhere else. Unless you have express permission from the copyright holder to reuse an image, some text or a piece of code, you should avoid doing so.

Some sites (notably code-oriented ones) provide elements of designs entirely for this purpose, but most do not. Even personal sites are covered by copyright laws, so don't think you can get away with stealing someone's holiday snaps to brighten up your own site. Furthermore, it's poor form to engage in deep linking – using a full URL to display an image that's stored on someone else's web space (unless, again, you have permission).

In a nutshell: don't steal. Failure to listen to this information could lead to a harsh email from the copyright holder, your site being uncovered as a sad old rip-off at **www.pirated-sites.com** or even, in the worst case, a lawsuit.

Stealing someone's design is a big no-no; do this and you may well get featured on Pirated-sites.com

Browser Statistics Month by Month

2005	IE 6	IE 5	Ffox	Moz	NN 7	O 8	O 7
September	68.6%	5.9%	18.7%	2.3%	0.5%	1.0%	0.3%
August	68.4%	6.3%	18.9%	2.4%	0.4%	0.8%	0.3%
July	67.9%	5.9%	19.8%	2.6%	0.5%	0.8%	0.4%
June	65.0%	6.8%	20.7%	2.9%	0.6%	0.7%	0.5%
May	64.8%	6.8%	21.0%	3.1%	0.7%	0.7%	0.6%
April	63.5%	7.9%	20.9%	3.1%	0.9%	0.4%	1.0%
March	63.6%	8.9%	18.9%	3.3%	1.0%	0.3%	1.6%
February	63.9%	9.5%	17.9%	3.3%	1.0%		1.7%
January	64.8%	9.7%	16.6%	3.4%	1.1%		1.9%
2004	**IE 6**	**IE 5**	**Moz**	**NN3**	**NN 7**	**NN 4**	**O 7**
December	65.5%	9.9%	17.0%	0.2%	1.2%	0.2%	1.8%
November	66.0%	10.2%	16.5%	0.2%	1.2%	0.3%	1.6%
October	67.3%	10.8%	14.7%	0.3%	1.3%	0.3%	1.6%
September	67.8%	11.2%	13.7%	0.3%	1.4%	0.3%	1.7%
August	67.0%	13.0%	12.7%	0.4%	1.4%	0.4%	1.6%
July	67.2%	13.2%	12.6%	0.4%	1.4%	0.4%	1.6%
June	67.6%	13.2%	12.2%	0.5%	1.4%	0.4%	1.6%
May	68.1%	13.8%	9.5%	0.6%	1.4%	0.4%	1.6%
April	68.2%	14.0%	8.5%	0.8%	1.4%	0.6%	1.4%
March	68.2%	14.6%	7.9%	0.8%	1.4%	0.6%	1.4%

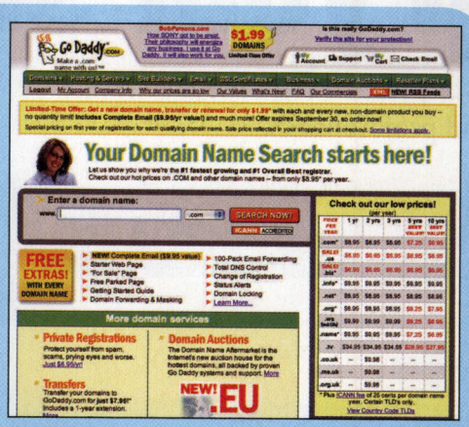
No web statistics are perfect, but ones based on a large number of web users at least provide an indication about browser usage and the like

WHAT'S IN A NAME?

These days, you don't have any excuse for sticking with awkward web addresses supplied by your ISP. But, at the dawn of the internet, it was common for personal websites to have ludicrously long URLs, which only the most determined of people could remember. Domain names tended to be things that 'professionals' bought, and corporations used, while the masses got on with trying to figure out whether it really was a good idea to try to market a personal site whose URL was something along the lines of **www.geocities.com/SoHo/Square/9822/index.html** (which, ahem, was this writer's address way back in 1995).

These days, of course, domain names are everywhere, and as they are pretty cheap you have no real reason for not grabbing one for each site you build. Many hosting packages will happily enable you to add domain names, over-riding the default address provided by the ISP. Even if you're lumbered with an ISP that won't allow this, you can always buy a domain name anyway and set it up to forward users to your web space.

When looking for a domain name, there are some things to bear in mind. Try to keep your choice as simple as possible, and avoid hyphenations or misspellings. If the domain you want is taken, try thinking of a totally different one. Also, check to see whether variations on the domain have been bought and what they are used to market. You don't want to buy the .co.uk of a name and then find the .com is, for instance, a porn site, because that may have nasty repercussions for you!



Registering domain names (such as at GoDaddy.com) is cheap these days, so you have no excuse for not grabbing one for your site!

Discard superfluous ideas and elements, and highlight those that you're really interested in (or that you think your audience will be interested in). Form the remaining words in your spider diagram into groups and figure out what each group represents. That should provide you with the basis for creating a site map, which is essentially a structural overview of your website. An example is shown on the previous page, and while you can use software to create site maps, it's just as easy to continue using pen and paper.

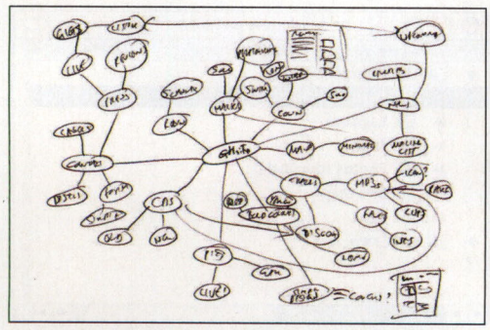
The site map should also provide the basis for your website's navigation: if you use the style of site map we've shown, the elements at the top of the tree would likely form the site's main navigation bar, while those underneath would be sub-navigation.

Always be mindful of your audience, though, and figure out how they might want to access content.

"The site map, which is essentially a structural overview, should provide the basis of your site's navigation"

Show your site map to other people and get feedback about whether it looks logical, and also ask for opinions regarding other content that you might add to the site (or whether some existing content ideas would be better removed).

Once you're done tweaking your site map, you can finally move to the computer, assured that your site will be all the better for your hard planning work. Start collecting text and images for the site (remembering to respect other people's copyright – see the box on the previous page for more information). Finally, although the majority of work from this point on will be done on your PC or Mac, always keep hold of your initial notes, because they may contain a number of ideas that you don't use, but that might come in useful when you're developing the site later.



Spider diagrams are handy for deciding on content for a site and organising how items relate to each other

Modern browsers make it easier than ever to grab images from the web, but that doesn't mean you should

TEN PLANNING TIPS

1 Have a good reason
What is the purpose of your website? Why are you even making it? These are the two questions that you need to be able to answer before you put pen to paper.

2 Stick to pen and paper
It's all too easy to get seduced by snazzy effects when working with software, so initially work with paper and pen when planning your site, its structure and the basic layout and navigation elements.

3 Browser compatibility
Although *Internet Explorer* is currently the most popular browser, these things can change. Always ensure that you author to acknowledged web standards and test your site in a number of browsers.

4 Gather feedback
Talk to other people about your site map and get as much feedback as you can before you start building. What may be stunningly obvious to you may not be to others.

5 Ensure accessibility
Not everyone will have a fast PC and web connection, so if you want to include large video files, for example, remember to plan fall-backs for other users.

6 No stealing
Don't steal images, text or code from sites you like the look of – only take and reuse material from elsewhere if you have permission to do so.

7 Use your site map
Stick to your site map until the site is online. Avoid 'feature creep' because otherwise you may never get your project on the web. Remember that you can always start small and grow your website later.

8 Go live when complete
Set yourself a deadline and stick to it. If you really can't meet the deadline, don't litter your site with 'under construction' signs – wait to upload it until it's all ready.

9 Get a domain
Domain names have more uses than making your site more memorable. Relevant domains can increase your search engine ranking, and having a domain means you can move your site to another host and avoid having to start again with a new address.

10 Choose a good name
When deciding on a domain name, keep it short, snappy and memorable. If possible, avoid grouped words and domains with hyphens or numerals.

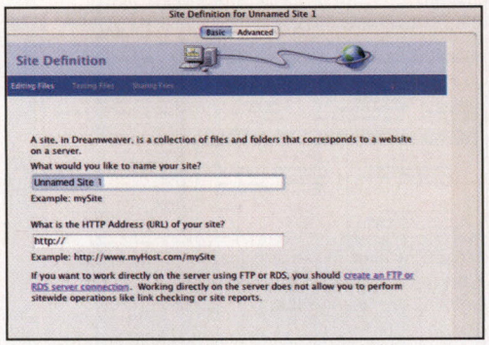
Setting up your site

Before you start creating your masterpiece in Dreamweaver, you need to check your settings and preferences...

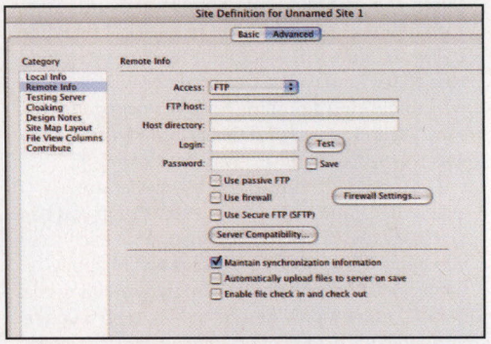
So you've mapped out exactly what your website is going to contain, and perhaps you've already created your layout in *Photoshop* or *Paint Shop Pro*. The next step is to start building the site, right? Well, not quite: the next step is to ensure that the application you're going to use to build your site has the correct settings, then you need to set up your site within the application, and only then can you get down to the business of actually building your site.

For this feature, we're going to be working with the daddy of web design tools, *Dreamweaver 8*, which is the latest version of Macromedia's powerhouse. However, the vast majority of things we'll be covering are available to *Dreamweaver MX 2004* users and perhaps even to *Dreamweaver MX* users. If you're not a *Dreamweaver* user, you're not entirely left out – many of the tips within these pages are relevant regardless of the web design app that you favour.

Before opening *Dreamweaver*, it's a good idea to set up a folder structure on your hard drive that can be used to contain everything for the site that you're creating. In fact, you should really do this before creating any layouts. The folder should contain within it subfolders for site back-ups, text, layouts (such as *Photoshop* documents), photographs (the originals, rather than web-ready ones, in case you need to edit an image and therefore need to find the original) and the website itself. An example structure is shown in the grab below, but it can of course be fine-tuned to your own needs.


Site Definition for Unnamed Site 1
Basic
Advanced
Site Definition
Editing Files
Testing Files
Sharing Files
A site, in Dreamweaver, is a collection of files and folders that corresponds to a website on a server.
What would you like to name your site?
Unnamed Site 1
Example: mySite
What is the HTTP Address (URL) of your site?
http://
Example: http://www.myHost.com/mySite
If you want to work directly on the server using FTP or RDS, you should create an FTP or RDS server connection. Working directly on the server does not allow you to perform sitewide operations like link checking or site reports.

Aimed at beginners, the basic version of the Site Definition dialog should be avoided



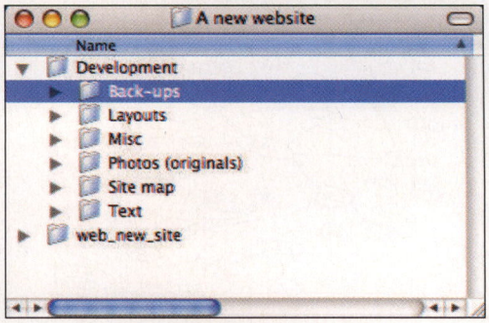
The advanced version of the Site Definition dialog enables you to input settings much more quickly

Defining a site in Dreamweaver

The Site Definition dialog is where all the action happens when setting up a site in *Dreamweaver*. This dialog can be accessed via Site > New Site and it comes in two different forms. The first, Basic, is akin to Microsoft wizards, leading you step-by-step through the set-up of your site. However, it really is basic, and, as such, it takes a lot longer to input the details you need to add. Because of this, we recommend choosing the Advanced option, even if it's your very first time using *Dreamweaver*.

You'll then see the Advanced version of the dialog, shown in the grab above. To the left is the Category column, and to the right is a set of options related to the selected category. For a typical, basic website, you'll only have to access to two of the available categories. The first is Local Info, which enables you to define the local version of your website. The Site name option is, unsurprisingly, intended for your site's name, and Local root folder is the folder that contains your website (where you're going to place your HTML files and so on).

Choose the relevant folder on your hard drive by clicking the folder icon, then navigating to and selecting it. Ensure 'Enable cache' is checked (because this enables *Dreamweaver* to maintain a database of information relating to your website's files, aiding link and asset management) and if you're new to naming website documents, check 'Use case-sensitive link checking' to make sure *Dreamweaver* weeds out any documents saved in the wrong case. (For the record, letters in lower case and the use of underscores instead of hyphens rather_like_this.html is a commonly used naming convention on the web.)



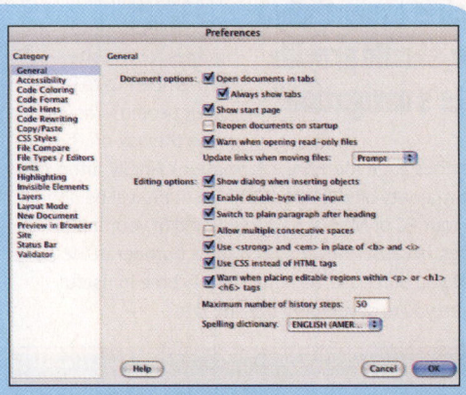
***Dreamweaver* takes care of your site's files, but you should set up folders on your hard drive to store related files**

TWEAKING PREFERENCES

Make your life easier by tweaking a number of *Dreamweaver*'s built-in preferences settings. The majority of *Dreamweaver*'s default settings are fine, but if you've been using the application for a while you may have changed some settings for the worse, so we'll briefly run through some of the more important ones. Many options within *Dreamweaver*'s preferences deal with the authoring of modern, compliant code, including 'Use and in place of <b> and <i>' in the General category, and all the checkboxes within the Accessibility category – all of these should be turned on, if they aren't already.

Formatting can also be amended. In Code Format, turn off Automatic Wrapping; if you don't, *Dreamweaver* hard wraps all code (i.e. after a certain number of characters, it inserts a line break), which can make it hard to edit and can also cause minor compatibility problems. Also in Code Format, Default tag case and Default attribute case should both be set to available lowercase options.

In the CSS Styles category, you can force CSS rules to be written in shorthand, for more succinct and easy-to-edit CSS. (An example of shorthand is 'padding: 10px 20px 30px 40px;' instead of 'padding-top: 10px; padding-right: 20px; padding-bottom: 30px; padding-left: 40px;'.)



***Dreamweaver*'s preferences enable you to tailor certain aspects of its working environment to your own tastes**

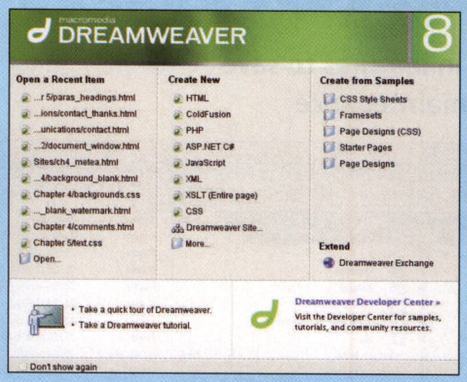
Finally, in the Preview in Browser category, ensure all your currently installed browsers are accessible and that you assign a keyboard shortcut to the two most-used ones (by selecting and clicking Primary or Secondary browser). All users should ensure they have *Firefox* and *Opera*; Windows users should add *IE*, Mac users *Safari*.

THE START PAGE

It's often viewed as an annoyance, but *Dreamweaver's* Start Page can prove useful. By default, the Start Page appears when you launch *Dreamweaver*, or when you no longer have any open documents. This tends to irritate some designers, hence Macromedia's decision to include the 'Don't show again' checkbox, to banish it forever. (Actually, you can check 'Show start page' in the Document options section of the General preferences to bring it back, but that doesn't sound quite as dramatic!) This page can be useful when starting a new site, when editing pages or when you need to access various items within *Dreamweaver*.

The Start Page has three columns. The first provides single-click access to the ten most recently opened items, along with an Open button to access any unlisted files. The centre column enables you to create a new document from one of eight choices, create a new site, or click More to access a number of other choices.

The third column, Create from Samples, provides easy access to a number of *Dreamweaver's* built-in samples, along with single-click access to Dreamweaver Exchange, where you'll find useful, time-saving additions for the application, from scripts and Flash elements to accessibility and CSS tools.



Use *Dreamweaver's* Start Page to access recent files or useful default documents

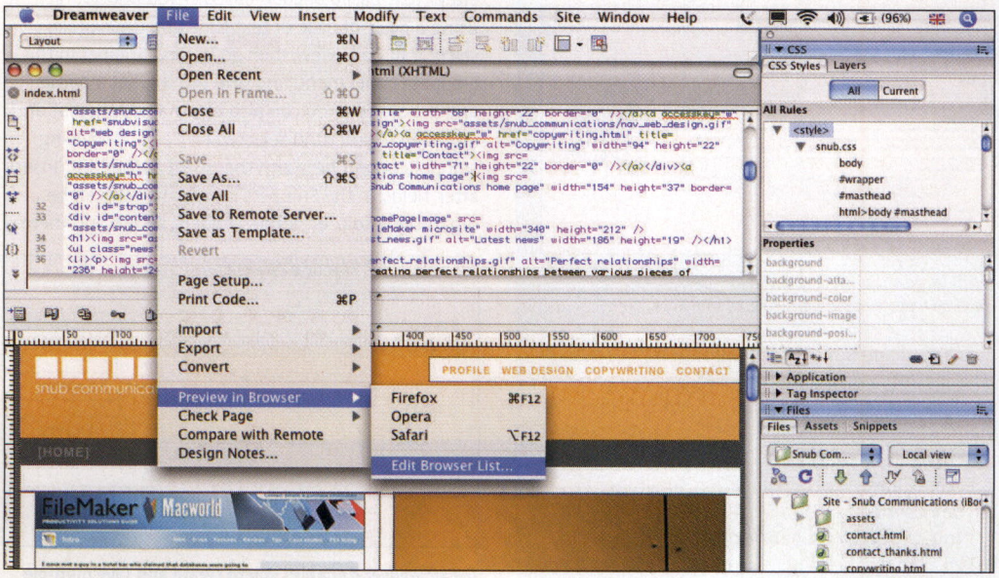
Although all of the items on the Start Page are included elsewhere in *Dreamweaver*, we reckon the page is a useful feature, enabling you to rapidly access templates and files. So, don't be too hasty – leave it active until you know whether it might be able to benefit your workflow and save you time.

Defining remote info

When you've finished defining local files, choose the Remote Info category. By default, this will have a single pop-up menu that will be set to None. If you are using standard web space to host your site, select FTP from the menu and you'll see a number of new options appear.

In FTP Host type the location of your web space, as per the directions provided by your ISP (if you have a domain, your domain name may suffice). In Host Directory, type the path name to the folder that houses your web files. In Login and Password add the relevant details for your account (and check Save if you don't want to have to type in your password every time you use *Dreamweaver's* FTP features).

Once all these details have been added, click Test to see if the settings work. If not, try checking 'Use passive FTP' and try the Test button again. If the settings still fail to work, chances are you've not entered your details correctly, so try again. Once *Dreamweaver* successfully connects to your web space, click OK to save the site's details. Sites can subsequently be edited by going to Sites > Manage Sites, selecting them from the list and clicking Edit.



You can preview your website in a number of browsers, directly from *Dreamweaver*

TEN SITE BUILDING TIPS

1 Get organised

Be organised when creating your site, and things will run more smoothly. Keep things like layout documents, original photographs, and related *Word* documents in the same folder that the site itself is stored in.

2 Order your files

FTP apps tend to put local files on the left and remote ones on the right, but *Dreamweaver* does the opposite. However, in the Site section of *Dreamweaver's* preferences, you can change Always show Local Files to 'Left'.

3 Use a folder template

Create a blank set of folders, ready for a new website, and use a copy of them for each site you create to save you time.

4 Test your site regularly

Don't rely entirely on *Dreamweaver's* Design view when working on your site. Instead, use the Preview in Browser settings to test your work.

5 Choose defaults

The latest version of *Dreamweaver* makes it easy to set defaults for the document type (under New Document). Use HTML for Default document, .html for Default extension, XHTML 1.0 Transitional for Default Document Type (DTD) and Unicode 4.0 UTF-8 for Default encoding.

6 Invisible elements

If you see yellow icons in Design view, they're flagging invisible elements (clicking them enables you to edit the relevant element in the Properties pane). Display of these elements can be toggled using the Invisible Elements category in the preferences.

7 Display options

View > Toolbars > Document activates the Document toolbar, providing easy access to useful display options. For instance, the Visual Aids menu enables you to toggle CSS layout and table outlines in Design view.

8 View options

The Document toolbar's View options menu enables you to toggle things relating to Code view; turning on Word Wrap and Line Numbers makes editing code easier.

9 Coding toolbar

Dreamweaver 8's new Coding toolbar contains tools to collapse and expand sections of code, and to rapidly add things like comments and recent snippets.

10 Split view

Some people prefer Design view and others Code view, but we like Split view so you can see the effects of your changes.

Site management

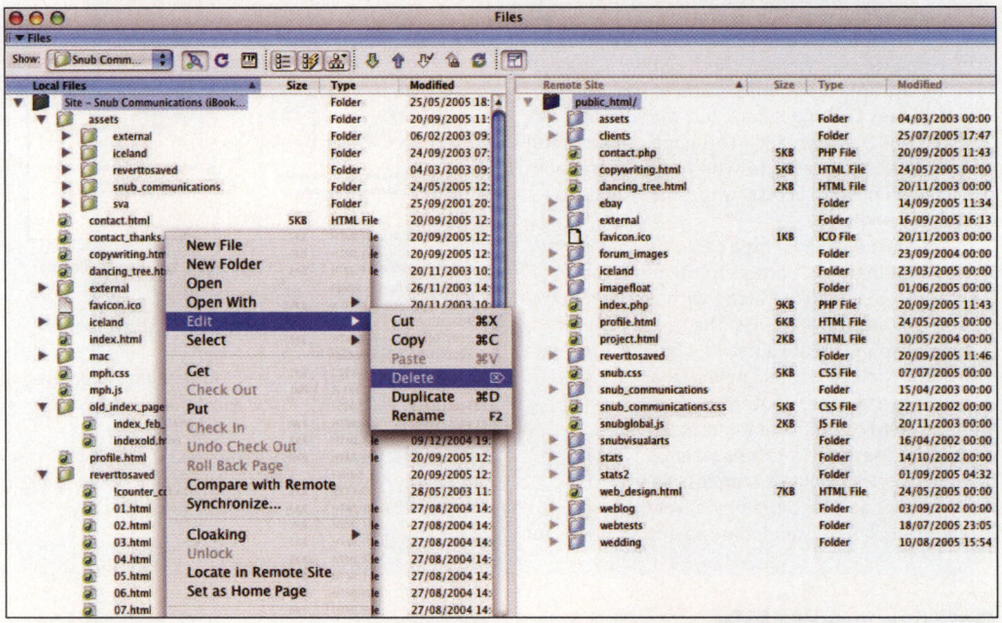
Make use of Dreamweaver's built-in features to save time during website updates and maintenance

The hard work's done: your site is complete and it's been uploaded. People have been visiting it and sending kind feedback. So now you can relax – but not for long! The thing is, the web is not a static medium and people expect sites to change regularly. Those that don't are assumed to have stagnated and died. One of the big advantages of using an application such as *Dreamweaver* is that changes can be made to your site fairly rapidly, if you take advantage of its many features.

Site management

Dreamweaver's Files panel is essentially a built-in file management tool and FTP client rolled into one. It's typically housed in the panel group at the right of the screen, showing local files. However, click the Expand/Collapse button and it expands to full size, showing both local and remote files. Using this panel, you can drag and drop documents and assets, create new folders and reorganise the file structure of your site.

When each page (or set of pages) is moved, a dialog box appears, enabling you to confirm that *Dreamweaver* should update all links relating to moved files. If you've added remote information in the Site dialog, as shown on the previous two pages, the Files panel can be used to upload and download files (select them and click the Put and Get buttons respectively after clicking the Connect button to access your web space). You can also choose to synchronise files in a number of ways, by putting newer files to the remote server, getting newer files from the remote server, or getting and putting newer files in both directions. This can save you lots of time – for instance, if you've made a few ad hoc changes to your site on a different computer and then want to synchronise the amended site with your local version.



When expanded, the Files panel works as a website file manager and competent, if basic, FTP client

Better content maintenance

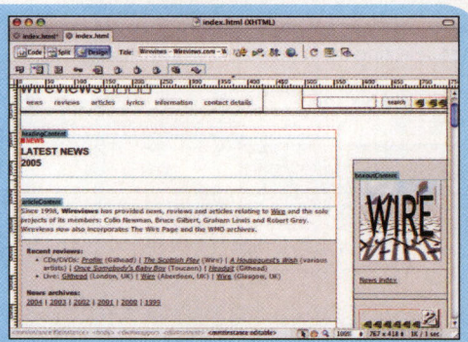
Two other *Dreamweaver* features that are well worth investigating are templates and snippets. The latter of these is seldom used, but it can save you plenty of time in the long run. The Snippets panel houses collapsible folders inside which you can store content, either text-based or code-based. If you find yourself using a piece of code or text time and time again, select it in Code view, then go to New Snippet in the Snippets panel menu and give the snippet a name and description. You can also create snippets that are intended to surround selected content, by splitting snippet content between the 'Insert before' and 'Insert after' fields. In the Snippets panel, snippets can be organised into user-defined folders, and to add them

TWEAKING TEMPLATES

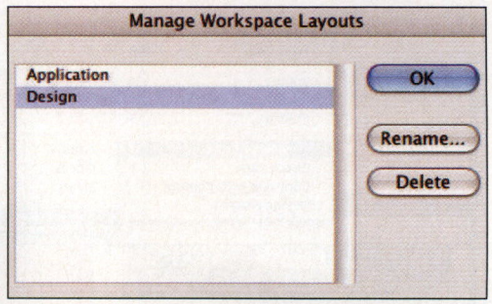
Dreamweaver's template features are some of the best in the industry, but there are occasions when it's good to be able to take control yourself, rather than relying on the application. A good example of this is when you add an editable region to a specific element on your web page, such as a heading. There are two ways of going about this: you can either place the editable region around the entire element, whereupon all of it remains editable (this is what *Dreamweaver* tends to do), or you can wrap the editable region around the element content only, meaning only the element's content remains editable. This means that if the element is a heading, it can't then be changed to a paragraph in any pages based on the template – useful when creating sites that need the same heading styles on every page but different heading content in each case.

Messing around with template code can be tricky, and if you get it wrong your page can subsequently fail to work, so always make a back-up of your page before editing template code. Editable regions start with something like <!-- InstanceBeginEditable name="regionName" --> and end with <!-- InstanceEndEditable -->. If you want to change an editable region so that instead of affecting an element it just affects its content, you need to change <!-- InstanceBeginEditable name="regionName" --><h1>Heading</h1><!-- InstanceEndEditable --> to <h1><!-- InstanceBeginEditable name="regionName" -->Heading<!-- InstanceEndEditable --></h1>.

Note how nesting here works as per standard HTML element nesting.



With large sites, use *Dreamweaver* templates to facilitate more rapid updating of multiple pages



***Dreamweaver 8* enables you to create and save multiple workspaces for different occasions**

THE IMPORTANCE OF BACK UPS

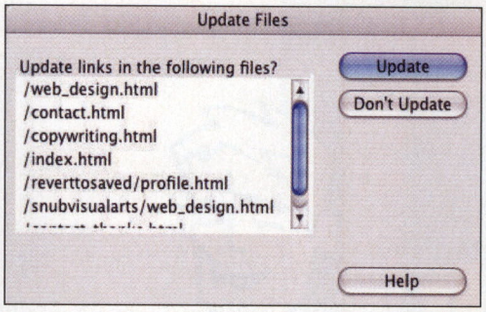
The fact about back ups is that most people who own computers fail to do them. A hard drive failure is always something that happens to someone else, but never to you. However, with one-touch back-up drives always coming down in price, there's really no excuse for not owning one, and if you have access to a DVD-R drive, you already have an inexpensive method of backing up your most important files.

For web design, you may wonder what the point in backing up is because you can always download your site to a new computer should disaster strike and your drive is destroyed. While that's true, the majority of people don't keep their development files (such as *Photoshop* layouts) online, and there's always a chance – however slim – that your computer's hard drive could die the same day that your web host's server does, meaning you may end up with an older version of your site online and no way of gaining access to the recent version that's stored on your now deceased hard drive.

There's another reason for taking back ups of your site: you can revert to a previous version if things go wrong. For instance, if you're working late and accidentally destroy your site by screwing up a *Dreamweaver* template update, you can go back to the previous version, assuming you took a back up before doing this major work. If not, that late night may end up becoming a very early morning...

to your page, just drag the snippet to Code or Design view, depending on the snippet's content.

Templates are the other major *Dreamweaver* feature that can help speed along site maintenance. If you're working on a site that's larger than a few pages, it makes sense to create a template for it. That way, if you ever need to amend global site elements (such as change inline graphics in the masthead or edit site-wide navigation) you can do so by editing the template, and



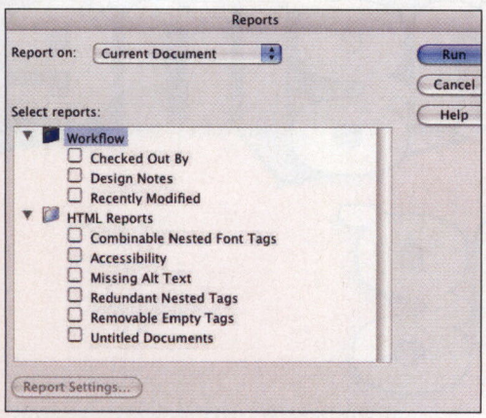
If you see this dialog, click Update to ensure that links on all pages being moved are updated

Dreamweaver will automatically update all pages based on that template. The process is far superior to doing a find and replace, and it enables you to make many changes at once.

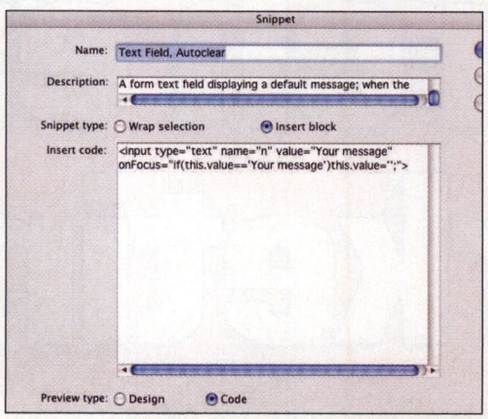
The best way to create a template is to get a default page fully working and validated, save it as a template (File > Save as Template) and then add editable regions. These are the areas that remain unlocked when you later create a page based on the template, and they can be added by selecting an area on the web page, right-clicking and choosing Templates > New Editable Region. The region should then be named, and it will appear as a tabbed, outlined area in Design view (see the box on the page opposite for tips on working with template code). To create a new page based on a template, go to File > New, click the Templates tab, choose a site from the left-hand column and a template from the middle column and then click Create.

Note that *Dreamweaver* templates are always stored in the Templates folder within your website (and with a file extension of .dwt). The Templates folder needn't be uploaded to your web space – templates are only required for working on the local version of your website. However, avoid moving templates out of this folder or moving the entire Templates folder elsewhere on your hard drive, or there's a danger that your templates may stop working properly. ■

"Templates and snippets are two Dreamweaver features that can help speed along site maintenance"



Weed out untitled documents, redundant nested tags, missing alt attributes and more with the Reports dialog



If you regularly input the same text or code, save these as snippets so you can drag and drop them into new pages

TEN MANAGEMENT TIPS

1 Dreamweaver templates
Learn to use templates. The code that templates add to the page doesn't affect compatibility, and the templates can save you many hours when working on site updates.

2 Make back ups
Make regular back ups of your work, so you can go back to a previous version if need be. When working on something new, take a copy at various steps when you get certain elements of a page working.

3 Use an FTP client
Dreamweaver's Files panel is useful for occasional minor uploads and file synchronisation, but we still recommend installing a dedicated FTP client.

4 Files panel
If you're working on a huge website, you can instantly highlight in the Files panel the page you're working on by going to Site > Locate in Site. Should the page be within folders, the relevant folders will be opened.

5 Check links
Go to Site > Check Links Sitewide and *Dreamweaver* will check all the links in your website, flagging broken links, external links and orphaned files.

6 Quick preview
To rapidly preview several pages at once, select them all in the Files panel and then go to File > Preview in Browser and choose a listed browser.

7 Tag checker
Need to quickly check a tag, but not online? Then go to the *Dreamweaver* Reference panel, which contains guides to CSS, JavaScript, HTML and more.

8 Define workspaces
Dreamweaver 8 enables you to define workspaces: Window > Workspace Layout > Save Current saves the current panel layout. You can therefore save various set-ups for things like working with CSS, application development, file management and so on.

9 Run reports
Go to Site > Reports to run reports on the current document or the entire site. Reports can help discover accessibility issues, missing or redundant tags, and documents lacking title element content.

10 Validate your site
Although *Dreamweaver* includes a number of useful validation tools, we still strongly recommend checking your main page template and CSS files at **www.w3.org**.

Search engine marketing

Search engines help more people find websites than any other method. We'll outline your search engine marketing options, and introduce you to the experts who will run a campaign for you

image: Getty Images

Nothing drives web traffic like a search engine. As many as 80 per cent of site visits begin with the visitor typing in a search term, and, according to the Interactive Advertising Bureau, the same percentage accounts for the number of online transactions that originate from search engine activity (**www.iabuk.net**).

Search engines put your company's web address in front of thousands of potential contacts and customers, which is important, because even if people have heard of your business, they don't necessarily have your URL imprinted on their brain. And if they haven't heard of you, search engines are the perfect way to introduce yourself.

As Andy Farmer, director of the digital agency Design UK (**www.designuk.com**), puts it: "If you aren't carrying out some form of search engine marketing, even if it's simply optimising your site for natural searches, then you're missing out."

Your choices

At its cheapest, search engine marketing means working on, or 'optimising', your website so that it gets noticed by search engine software as it trawls the web; this can be done in-house, or you can pay a search engine optimisation specialist to do the work for you. At its most expensive, it means running advertising campaigns on several search engines that you pay for by the click.

Increasingly, search engine marketing centres on one website – Google.co.uk. But even on Google the marketing options vary considerably, depending on whether you're willing to pay for advertising. There are other important search sites that you shouldn't ignore, and many of them give you greater control over the search process than Google.

Indeed, lack of control deters many businesses from paying due attention to search engines. Time is another factor – you need to view search engine marketing as a long-term strategy. "Don't expect immediate results unless you want to invest in pay-per-click campaigns," advises Design UK's Farmer. "It can take weeks, or even months, for your site to gain a high ranking once optimised."

To save time, and to gain control, you can pay for the inorganic activity of paid placements of your URL and marketing message on the search engines. The advantage of paid-for results is that they appear when and where you want them to; the disadvantage is that many web users trust objective, organic results over those that have been purchased.

Ultimately, the type of search engine marketing you adopt will depend on how you balance time-saving and control against cost and effectiveness.

Joining the ranks

Search engine marketing isn't just about getting included within the search results – it's about *where* you're included. According to Jon Earnshaw, operations director of website optimisation company Connectivityman (**www.connectivityman.com**), the key to success in retail also applies to success on the web – location, location, location.

"The simple fact is that if you're not on page one or two of the organic search results, you're in the wrong location and potential customers will not find you," says Earnshaw. Making sure you get on those pages involves, among other things, targeting the right search keywords to give your website a realistic chance of appearing high in the results. The problem is that getting a ranking on a search engine is not like buying a house; the location can change almost every hour.

As your web content becomes older, and as newer pages from your rivals start to appear, you'll inevitably find your URL slipping down the rankings. "Search engine marketing is an ongoing process, so a continued effort is required to achieve results, and this can be time-intensive," says Justin Samuel, search executive at Profero (**www.profero.com**), the e-marketing agency for Ask Jeeves.

You'll want your site to appear at as many online locations as possible. But consider not only how high up in the results it appears, but also how many people are actually seeing those results.

Google or bust

If you want to be anywhere on the web, you simply have to be on Google. A first-page result here is the ultimate location for your site – the online equivalent of Park Lane or Mayfair on the Monopoly board.

What's more, it's free. Sure, Google does run adverts (more on that later), but to appear on its main list costs nothing at all. Indeed, one of the reasons Google is so popular is that it's seen as the most fair and objective search site on the web.

This does, of course, mean that Google is difficult to manipulate. It's continually updated, and uses some of the most complex software on the planet. Certainly, it's not enough to rely solely on the traditional tactics of search engine optimisation, such as placing relevant keywords within your web pages' HTML meta tags, to guarantee that your site gets picked up. "Google uses a complex algorithm that takes into consideration multiple factors," says Paul O'Donoghue, managing director of digital marketing agency GCDM (**www.gcdm.co.uk**). "One of the most important of these is the quality of links to your site."

"A first page result on Google is the online equivalent of Park Lane or Mayfair on the Monopoly board"

These are the links displayed on the websites of your contacts, customers, peers and advice sources. Google's search engine 'robots' don't like dead links very much, so make sure you regularly click through and check they're still active.

Google's software has an almost supernatural ability to spot when the wool is being pulled over its eyes. It's no good simply including an irrelevant links page or search keywords just for the sake of it. Links need to be incorporated, or included alongside text, and keywords should be there for a reason.

The best way to attract links is to embark on a reciprocal link strategy. Find a site where you believe your customers could be hanging out, and ask the

THE SUCCESS STORES

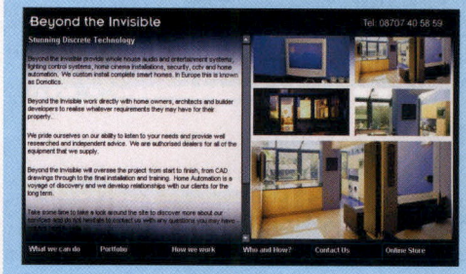
Beyond The Invisible

www.beyondtheinvisible.com

Audio and video installation company

Campaign: Google AdWords to promote the company online when it launched in 2003.

How successful? The campaign cost £4,500, and resulted in £200,000 worth of business – a return of 225 per cent.



Best Western Hotels

www.bestwestern.co.uk

Independent hotel chain

Campaign: Best Western Hotels redesigned its website to ensure it was accessible to search engines with the help of a marketing agency and a search engine marketing agency.

How successful? Over 300 popular search terms achieved a ranking of between one and 10 for Best Western on all major search engines. Over 15,000 extra online referrals were received in the first month from Google alone.

Mistral

www.mistral.co.uk

Business ISP

Campaign: Mistral spends £3,000 a month on pay-per-click search engine marketing, and works with an agency called Fresh Egg (**www.freshegg.com**) to target Google, Overture, E-Spotting and Mirago.

How successful? One month Mistral's search campaign led to 3,533 leads; one lead resulted in a sale worth £12,000.

owner if they would be so kind as to link to your site. In return, offer them the chance to have their URL included on your own links page.

The way to think of Google rankings, says Earnshaw of Connectivityman, is as a kind of election process. "Google believes that when one web page links to another, it's effectively casting a vote for the other page," he says. "The more links that point to a page, the more important the page must be, and the higher it will appear in the search results. But not all links are valued equally, and each will depend on the importance of the originating page." For more guidance on Google results pay a visit to **www.google.co.uk/webmasters**.

How to be found

As well as optimising your site for Google, you should try your best to make sure that you improve its chances of a good organic ranking on other web portals and search sites, such as Yahoo.com, Ask Jeeves (**www.ask.co.uk**) and MSN.co.uk. If a web page meets Google's high standards, then it's likely to make the grade at other search sites. The main difference is that most other engines pay less attention to links, and more to other fundamentals of your site.

Mirago (**www.mirago.co.uk**) is a company that provides the results for many of the leading search engines, so its business development manager, Leigh Tomlinson, knows more about search engine optimisation than most. And, according to her, the most important elements of your site are the HTML page titles.

"The key is getting your keywords into the title and repeating them on the page," she says. "For example, if you sell mobile phones then make sure your title states this, and make sure you change the title for each different page on your site. So if your next page is about ringtones, then make sure the title includes ringtones."

"If a web page meets Google's high standards, then it's likely to make the grade at other search sites"

Other things to consider along the organic DIY route are: site navigation (is it logical and robot-friendly?); updating content (search engines love websites that are refreshed frequently); preferring HTML to Flash site architecture (though it's changing, most search engine robots still dislike Flash); frames (avoid); and how you format your site text (if you put keywords in italics and bold letters they will be treated as more important by some search engines).

For up-to-date tips on search engine optimisation, visit the forums where the serious search engine experts hang out, such as **www.webmasterworld.com** and **www.searchengineforums.com**.

Expert help

If you're a bit daunted by the whole process of search engine optimisation, there are numerous companies that will be glad to offer their services – for the right price. Many of them can be found through The Guardian's marketing agency service (media.guardian.co.uk/services/agencypreview).

The advantage of outsourcing is experience. "A specialist agency will have processes in place that enable you to measure the ROI (return on investment) against your own targets," says O'Donoghue of GCDM.

The type of work a search engine agency will do is up to you. On top of standard website optimisation, some agents offer 'keyword management' whereby they keep abreast of your ranking, and try to improve it in each keyword category you require.

Companies typically pay between £2,000 and £10,000 a month for ongoing, full-service search engine optimisation. This would include tracking and reporting, such as that offered by search engine marketing company Neutralize (**www.neutralize.com**). "This will report on precisely which key phrase from which search engines delivered a sale or a lead," explains Edward Cowell, Neutralize's technical director.

Pay per click

Paying for a listing on a search engine tends to be a cheaper option than outsourcing someone to manage your search engine optimisation, but your success rate depends again on location. Overture (**www.overture.co.uk**) is the major player in paid-for searching, as it feeds search engines with sponsored listings. There are a number of multiple niche providers that you should research, according to your industry and, as always, you should only want to be where your customers already are.

Paid listings are usually displayed as such in some way, so that users can distinguish them from search results found organically. As people are more reluctant to click through a commercial link than an organic one, it's important to play it safe, and go for pay-per-click solutions.

With pay per-click, you pay to be listed under however many search terms you require, but only pay for the number of visits to your site. You should record the number of visitors that a paid engine listing is pushing to your site, and how many are converted into customers. The more relevant your keywords are, the greater the chance of conversion; so the ROI is likely to diminish the more keywords you purchase.

Some search sites allow you to advertise your URL alongside the main listings. Google offers the most popular schemes. Google AdWords (**adwords.google.co.uk**) is now one of the best-known examples of paid-for search engine marketing, as it enables

CASE STUDY

William Makower
www.tescofinance.com

Tesco Personal Finance turned to search engine marketing to increase the online sales of its loan, mortgage and insurance products. The company asked the consultancy Panlogic (**www.panlogic.co.uk**), whose clients include Garnier, ITV, The Premier League and Lastminute.com, to maximise its presence in natural search engine listings.

William Makower, Panlogic's chief executive, explains why Tesco prefers the organic approach to paying per-click.

Q What sort of results has Tesco Personal Finance seen from this search engine marketing?

A We began to see massive returns once the natural programme was up and running. Tesco Personal Finance's website regularly receives between 50,000 and 100,000 targeted visitors a month, with an average conversion rate of 20 per cent across its products.

Q And what about costs?

A Panlogic charges a retained monthly fee dependent on the work involved, and Retainers range from £2,500 to £5,000 a month. However, Tesco Personal Finance's payment scheme is based on the results of the campaign.

Q So what was the return on investment?

A In excess of 300 per cent when leading to a direct sell.

Q Why do you think your search engine marketing campaigns are so successful?

A Because we understand the psychology of the search user, and believe this to be by far the most important factor for a successful search engine campaign.

Q Why do you concentrate on natural search engine listings rather than paid-for listings?

A Cost-per-click search marketing is a media buy, and is therefore dictated by rates. It's not a technical solution. Recent research in North America has shown that 70-80 per cent of search happens in the natural listings. Google has somewhere between 50 and 75 per cent of all search in the UK, and Google natural search accounts for 35-60 per cent of the entire search market. Panlogic therefore dedicates itself to natural search engine marketing, since it's the number one route to target.

companies of all sizes and budgets to get involved by purchasing certain keywords that will be relevant to their audience. When a user enters the relevant keyword into the Google search engine, Google will display the company's advert to the side of the organic listings that its robots locate.

Google charges a nominal one-time activation fee of £5, and then you can choose a maximum cost per click from 5p to £100. Depending on your chosen keywords, AdWords will suggest the recommended cost per click, but don't worry about overspending because the service allows you to set your own budgets. Google will suggest alternative keywords, and estimate how much traffic you should be receiving.

There are even companies that specialise in helping you advertise on Google. Top Position (**www.topposition.co.uk**) will manage an AdWords campaign for you. It claims to improve a Google advertiser's campaign by improving click-through rates while reducing costs, and it certainly did that for Leonardo (**www.leonardo-cad.co.uk**), a CAD software and hardware supplier. Top Position reduced Leonardo's AdWords expenditure of more than £2,000 a month by 50 per cent, and increased the clickthrough rate from an average of 1.3 per cent to four per cent.

Legal caution

There are various legal guidelines regarding search engine marketing, but the biggest problem area relates to trademarks; don't even think about using a rival or big brand's name, slogan or trademark in your web page meta tags or search engine advertising to attract browsers.

"Search engine marketing has been problematic around the world," says Peter Stevens, partner in the technology and media department at Manches Solicitors (**www.manches.com**). "In particular, trademark owners have complained that use of their trademarks in a way that results in competitors' sites being listed in the results of searches made against their marks constitutes trademark infringement. Although the early decisions seemed to favour the trademark owners, the trend now seems to be running in favour of the search engines." In the 'Road Tech' case (**www.roadtech.co.uk**), the company was awarded £15,000 damages after taking a competitor to court for using its name and 'Roadrunner' trademark in its meta tags.

The law also affects how you go about tracking the results of a campaign. You must consider not only the Data Protection Act, but also the new Directive on Privacy and Electronic Communications. This new directive says that those using websites should be told if information about their use of the site is gathered as they surf the net. Before you start tracking how people are getting to your site, you should therefore include information on tracking in your website's privacy policy.

Don't let this put you off, however. Tracking is arguably more important for search engine marketing than for any other form or promotion. It can involve simply looking at your website's log files to see which websites are driving the most traffic. If you're using a search agency, make sure they have access to the relevant data contained on your web logs.

You could also invest in a tracking solution such as WebPosition Gold (**www.netiq.com/solutions/webanalytics/webposition.asp**). Prices start at around £80, and a free 30-day trial is available online.

"It's no good having the top ranking on Google if that ranking is under an irrelevant keyword"

As people are spending more and more time on search engines, search engine marketing is becoming ever more important. Ideally, the initial aim should be to get your site as high as possible on the objective results of sites such as Google and Ask Jeeves.Primarily, this means you should concentrate on the quality of the content and structure of your site, in the hope that search engine robots will notice your site. In the case of search 'directories' such as Yahoo!, it's important to submit your site to the directory editors.

To gain greater control over your search marketing, consider the more expensive options, such as paid-for listings and using the services of specialist search agencies. Whichever route you opt for, the focus should be on relevance; after all, it's no good having the top ranking on Google if that ranking is under an irrelevant keyword.

Search engine marketing is not an exact science. No two search engines, and no two search users, are the same, and there is certainly no one-size-fits-all model for success. But it's precisely this fact that makes it the most exciting, and potentially the most rewarding, aspect of all online marketing. ■

FURTHER READING

Book

TITLE: Search Engine Visibility
AUTHOR: Shari Thurow
PUBLISHER: New Riders
ISBN: 0735712565
PRICE: £30.99
A great hands-on guide to search engine optimisation by one of the leaders in the field.

Website

TITLE: Search Engine Watch
URL: **http://searchenginewatch.com**
This site is jam-packed with search engine submission tips, while the reviews section rates the popularity of different search engines.

Event

NAME: Search Engine Strategies Conference & Expo 2005
DATE: 19-20 October 2005
LOCATION: Stockholm, Sweden
URL: **www.jupiterevents.com**
This search engine marketing and optimisation event is run by the associate editor of Search Engine Watch and is back by popular demand. Expect to learn more than you need to know about search engine marketing.

PROS AND CONS

Arguments for and against promotion on the search engines

✓ **Easy to track**
Monitoring a campaign can be as simple as checking your web-log files to see where your customers are coming from.

✓ **Attracts new customers**
People who haven't heard of your company can still reach you when they search using keywords.

✓ **Inexpensive**
If you're prepared to put the effort in it can cost you nothing but your time.

✓ **Wide reach**
The majority of people reach websites via search engines, so to ignore them is to ignore most of the web.

✓ **Targeted**
As you can focus on single keywords for site submission or paid ads, search engine marketing is one of the most precise forms of online promotion.

✗ **Design investment**
You may have to redesign your website to get a better ranking.

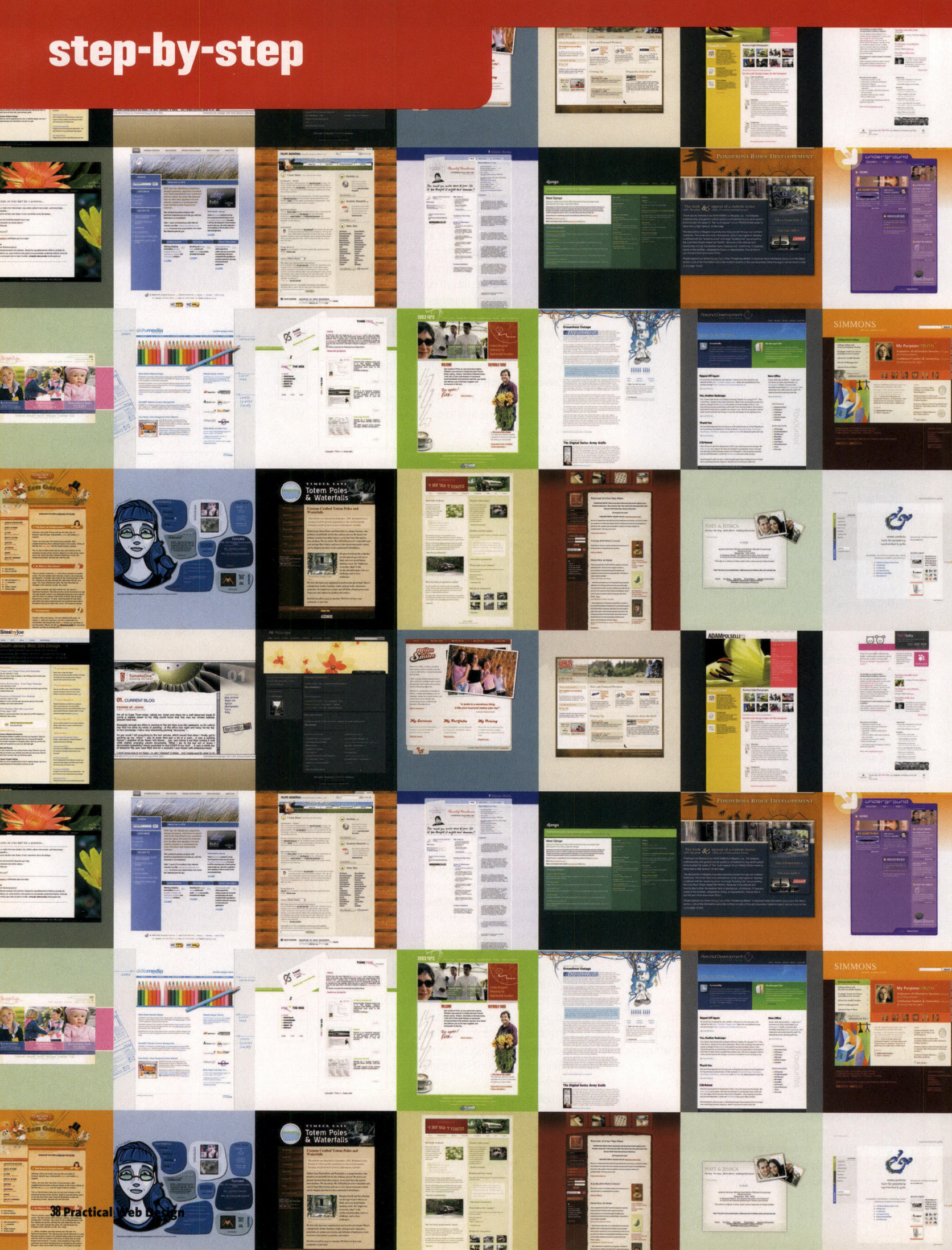
✗ **Lack of control**
With 'organic' listings you have little control over your position.

✗ **Slow**
Don't expect instant results unless you use paid-for search engines.

✗ **Competitive**
As more people use paid-for search marketing there's a greater risk of poor return on investment.

✗ **Crowded**
If you're competing in an overcrowded sector it may be difficult or expensive to achieve good ranking, due to the sheer number of related web pages you're up against.

step-by-step



Build quick CSS templates

Create a CSS-powered, perfectly positioned HTML layout using the free template-making tool Layout Master

We already know that table-based layouts are not good practice. The benign bureaucrats at the World Wide Web Consortium (W3C) want us to start separating formatting from content entirely. Yep – even page layouts. The platform for achieving this is the Cascading Style Sheet protocol, which enables you to define the position of content on pages exactly.

Style sheets are very flexible, enabling you to add formatting either within the body of an HTML page, as an embedded declaration at the top of the document or in an external style sheet. The external style sheet method is the most attractive for go-getting, forward-thinking designers, because it achieves the W3C goal of separating form from content. You can use that one style sheet to define the layout of an army of pages – and change each one with a couple of tweaks of the style sheet. The problem is, though, that despite there being lots of mainstream drag-and-drop tools that create CSS layouts with pixel-perfect precision, there are only a few that write those layouts to external style sheets.

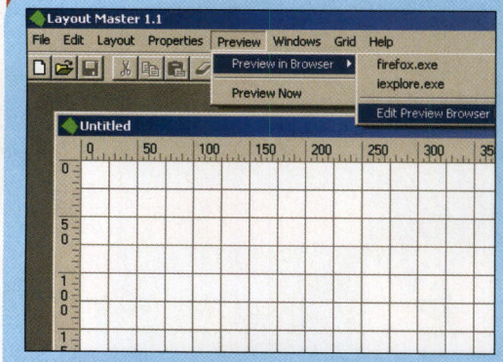
So, hurrah for *Layout Master* then – a tool that creates inline, embedded and external CSS layouts and costs zero pence. You can download *Layout Master* from **www.westciv.com/westciv/downloads.html**, or you can find a copy on this issue's cover disc. The software was previously shareware, but is now offered as a freeware tool. You'll just need the serial number listed on the web page to install it. *Layout Master* is billed as a tool for creating absolutely positioned layouts – and that's exactly what it does. It's not great for adding content to pages or formatting text, but it is ideal for creating templates with precisely positioned CSS layout blocks. If you've a little more know-how, you might even persuade it to create relatively positioned layouts. Neither *Dreamweaver* nor *FrontPage* has the same abilities.

In this tutorial we take a feature tour of *Layout Master*, putting together a full CSS-powered XHTML template. You'll generate two files: an HTML document and an external CSS style sheet. Either file can then be edited further using any web-authoring tool you choose.

On the cover CD

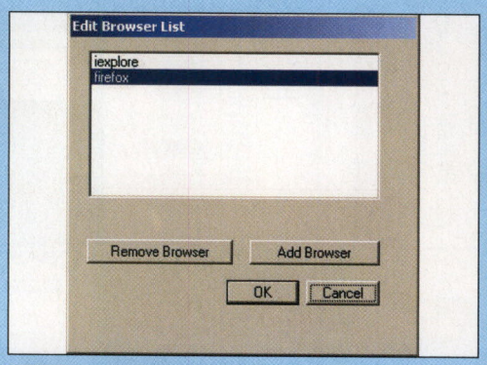
- Layout Master

SET UP THE LAYOUT



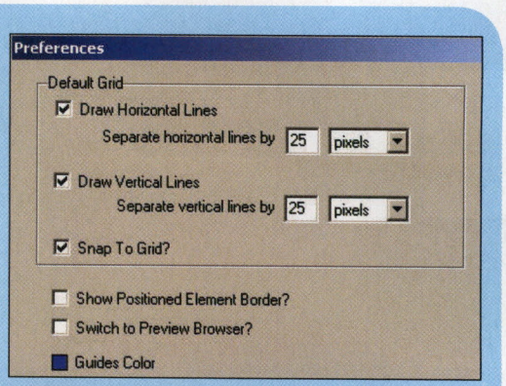
1 Configure Layout Master

There are a few aspects of *Layout Master* that you'll need to configure before you start. To begin with, it doesn't automatically detect all the browsers on your system. *Internet Explorer* is found, but you'll have to add some of the others manually. Go to Preview > Preview in Browser > Edit Browser List.



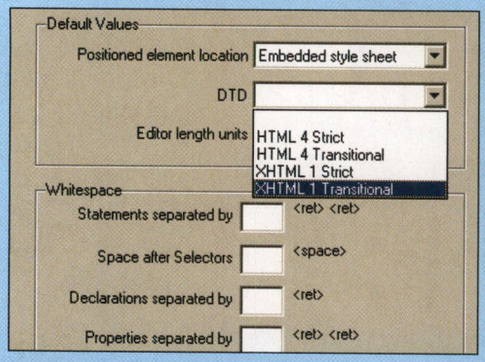
2 Add browsers

Click Add Browser and navigate to the relevant program file. For example, *Firefox* is firefox.exe located in C:\Program Files\Mozilla Firefox\. You can select as many browsers as you want to use in the Preview > Preview in Browser menu. They'll open simultaneously when you hit the Preview Now button.



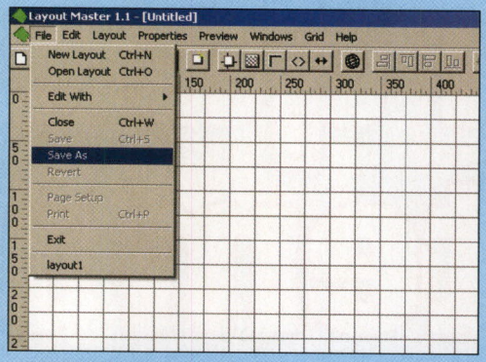
3 Edit layout grid

Next we need to set some preferences. Go to Edit > Edit Preferences. The Default Grid enables you to edit the size of your current layout grid. We'd recommend 25x25 pixels as a workable default. If Snap to Grid is not already enabled, click it now. Show Positioned Element Border should also be ticked.



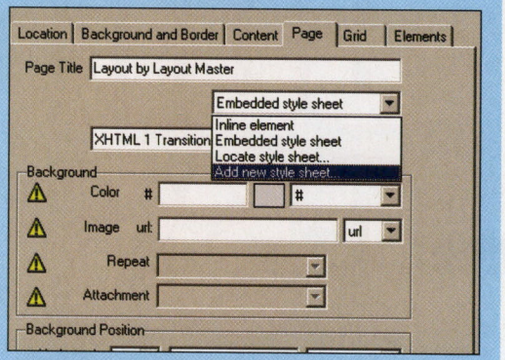
4 Edit Default Values

Now, on to the Default Values section. Leave the Positioned element location selection at the default setting for now. We will be able to make changes to that in a moment. In the DTD drop-down you should select XHTML 1 Transitional, or XHTML 1 Strict. Click OK to accept the tweaks you've made.



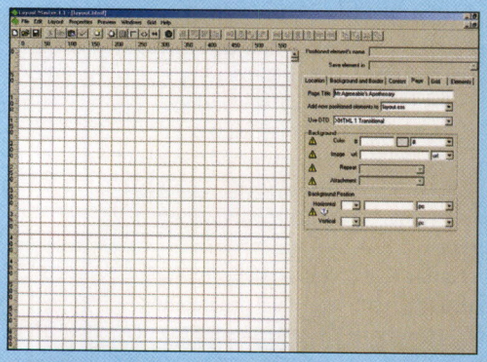
5 Save document

Before we can continue any further, we'll need to save the empty document that opens in *Layout Master* by default. Go to File > Save and save the HTML file in a new folder of its own. If you don't do this before continuing, you'll find that some of *Layout Master*'s features won't be available.



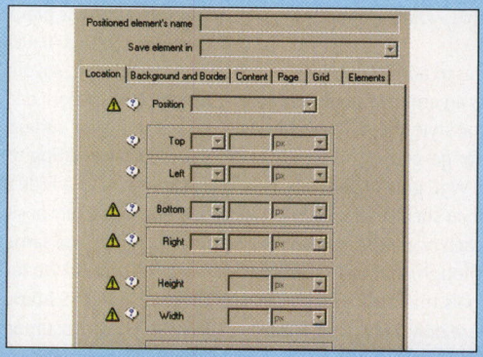
6 Create a style sheet

We're specifically thinking about the program's ability to create layouts in external style sheets. Click the Page tab. You'll see a menu labelled 'Add new positioned elements to'. Select Add New Style Sheet from the menu. Name the CSS file and save it to the same folder as the HTML file when prompted.



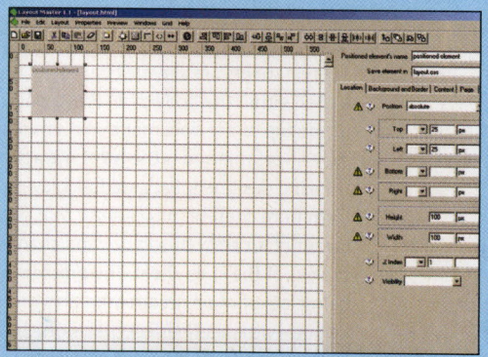
7 Choose a page title

While you're there, you'll be able to change the page's title. We'll be leaving the other attributes, such as the background colours and images, until a little later on. To keep the changes you've made, save your file again now (just hit Ctrl+S) and we'll have a quick look through *Layout Master*'s Properties Editor.



8 Element attributes

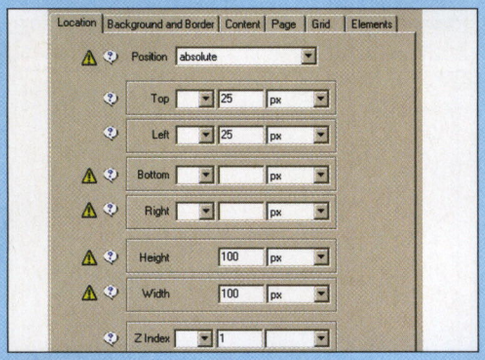
We've already looked at the Page section. As you add layout elements to the main document window you'll find that you can switch between the remaining tabs to manually enter attributes for selected elements. The tabs don't have anything to edit yet, so we'll add our first layout block.



9 Add layout block

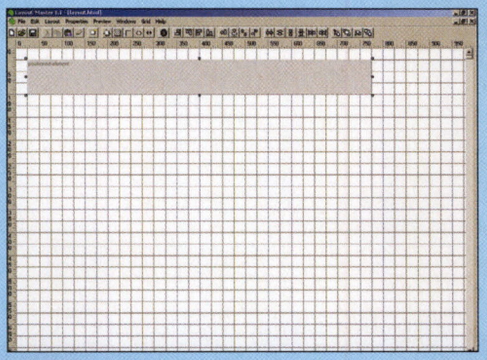
Go to the Layout menu and select New Positioned Element. A grey square with handles on it will appear in the document window. Hit the Location tab in the Editors pane, then click the positioned element and move it. You'll notice here that the top and left pixel co-ordinates update automatically.

CREATE ABSOLUTE POSITIONED LAYOUTS



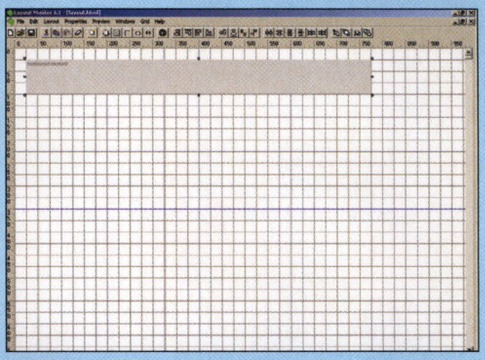
1 Position the element

The positioned element you see in your document is actually a CSS container – a style sheet block level element used to encapsulate page content. We'll position and resize this one numerically. Enter 25 in the Top and Left boxes found in the Location section of the Properties Editor.



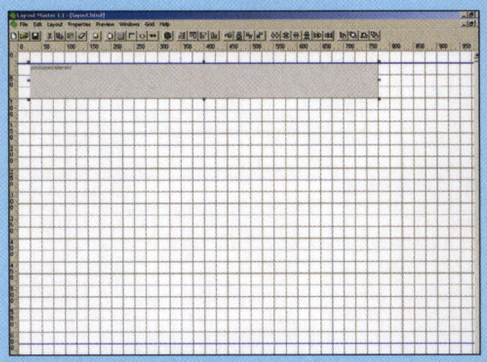
2 Resize the element

The element should reposition to 25 pixels from the top and left of the document. Next, enter 75 as the height of the element and 750 as its width. The element resizes to cover most of the page. To take a better look at what you have so far, go to Windows > Hide Editors, temporarily removing the Properties Editor.



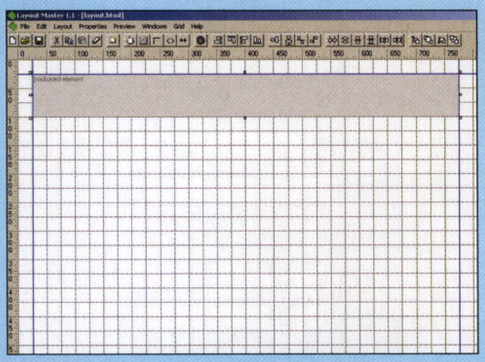
3 Create guidelines

We're going to position the remaining elements using drag-and-drop methods. To help us out, we'll place some guides first. You should be able to see rulers at the top and bottom of the page. Click the top ruler and drag towards the centre. A blue guideline appears when you release the mouse button.



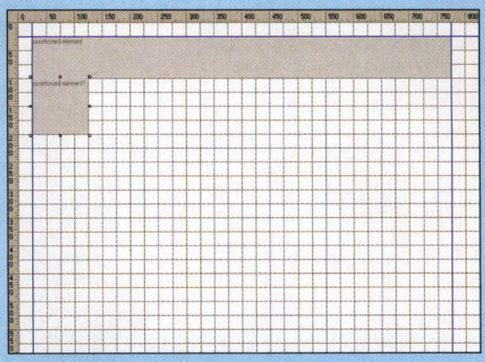
4 Position guides

Click and drag the guide so that it sits flush with the top of the first positioned element in the page. Next, click and drag on the top ruler again. As you drag the guide, you should see it snapping to grid lines and appearing as a slightly thicker grey line. Position it with the 625 mark on the left ruler.



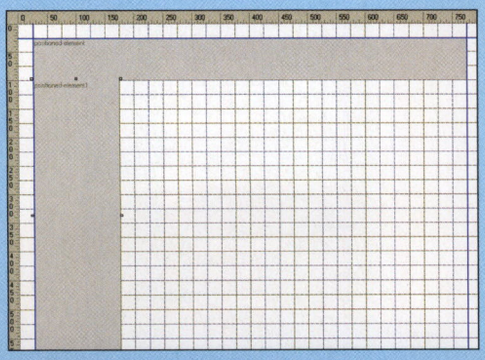
5 Outline page area

Now, drag a guide across from the left ruler out to the end of the positioned element on the page, then place a fourth and final guide flush with the beginning of the element. You should now be able to see a nice blue rectangle, which outlines the area where you're going to place page elements.



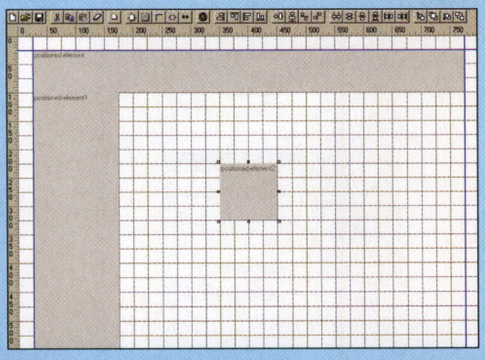
6 Place a new element

Hit Ctrl+M. This is the keyboard shortcut for placing a new positioned element. Click and drag the element so that its top edge touches the first element and its left-hand side is sitting flush with the guide on the far left. Then hover your cursor over the handle on the right side of the block.



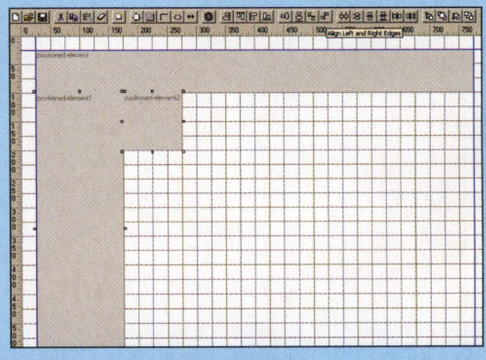
7 Increase block width

Click and drag to resize the block, increasing the overall width to 150 pixels. Although the Properties Editor is currently hidden from view, you can still judge the width using the grid squares, which should measure up as a 25 pixels square. Drag the bottom edge down so that it's 50 pixels from the bottom guide.



8 Alignment buttons

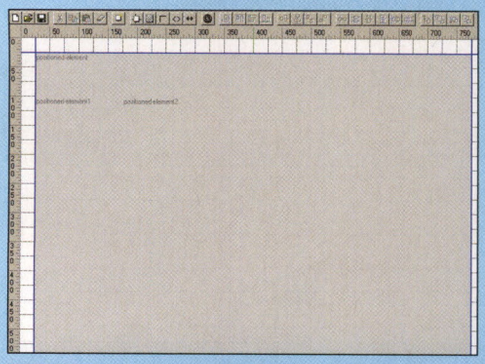
Here's another useful way to position elements. Hit Ctrl+M again. This time drag the new element into the white space in the centre of the document. Look at the icon bar running along the top of the document window. The last half of this bar is populated with alignment buttons, which you can use to move the element.



9 Align elements

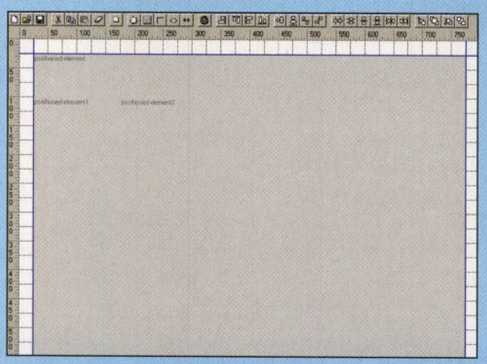
With the new element still selected, Shift-click the top element. This selects both at the same time. Hover your cursor over the alignment buttons until you find the Align Top and Bottom Edges button – then click it (it does exactly what it says on the button). Click the white space to deselect both elements.

CREATE ABSOLUTE POSITIONED LAYOUTS



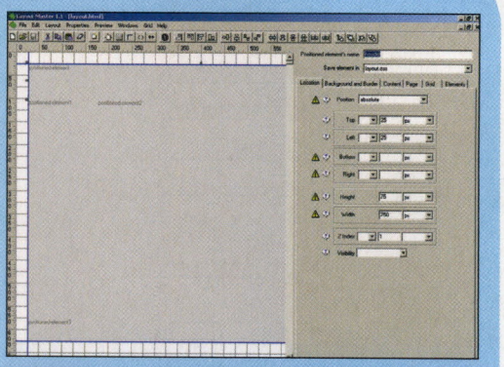
10 Resize the new element

Again, select the new element then Ctrl-click the left element. This time click the Align Left and Right Edges button. Playing with the alignment buttons reveals that you can actually nest elements inside each other too. Now resize the new element so that it measures 475 pixels high and 600 wide.



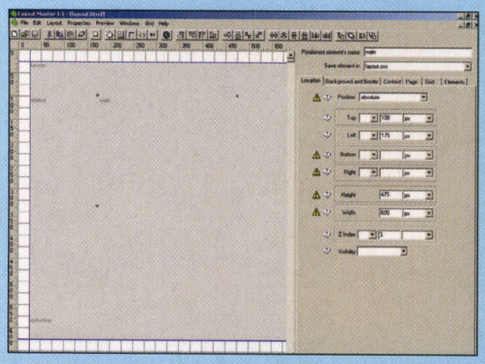
11 Add the final element

By now you should only have one small gap left at the bottom of the grid. Hit Ctrl+M again to add a final positioned element, then resize and position it so it exactly fits into that gap. It should be 750 pixels wide by 50 high and it should be positioned 275 pixels from the top and 25 from the left-hand side.



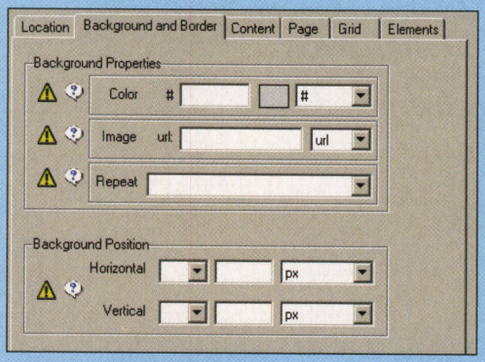
12 Rename the element

You've now got a simple layout with four distinct areas to it. They're not named very intuitively, though. Go to Windows > Show Editors. Select the top element in the main document then go to the Properties Editor. Above the tabs there's a box labelled Positioned element's name. Change the text to read 'header'.



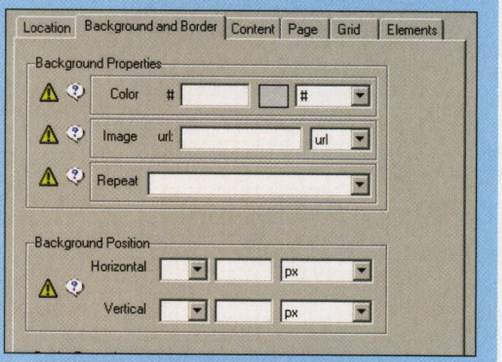
13 Label remaining elements

In the same way as you did in Step 12, change the positoned-element-1 to read 'sidebar', positioned-element-2 can be called 'main' and positioned-element3 should be labelled 'bottombar'. This will make targeting and identifying these elements much easier as you begin to populate the layout with content.



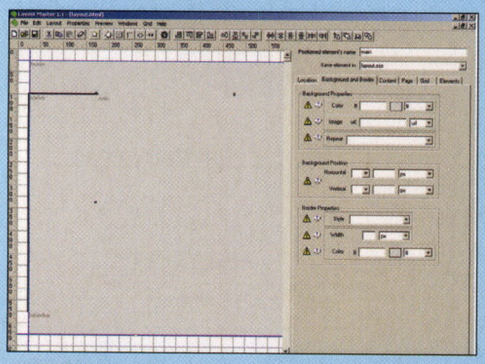
14 Add a border

Although the layout that you have just created looks suspiciously like a bunch of grey blocks in *Layout Master*, they're actually transparent and unformatted. To change this, click the Background and Border tab and select the sidebar element. Choose Solid from the Border Properties > Style section.



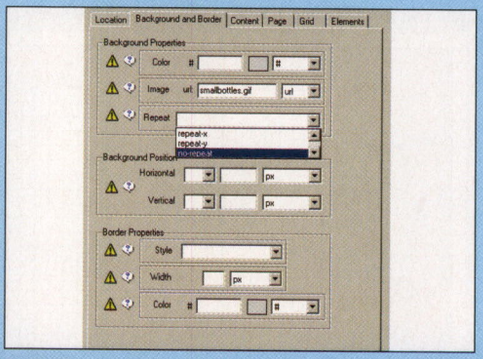
15 Select border attributes

In the Width box type the number 2 and set the colour to black. You won't be able to see the complete border rendered in *Layout Master*. You can, however, hit the preview button to get a quick look at the result. One thing you'll notice is that there's some temporary text in each layout block.



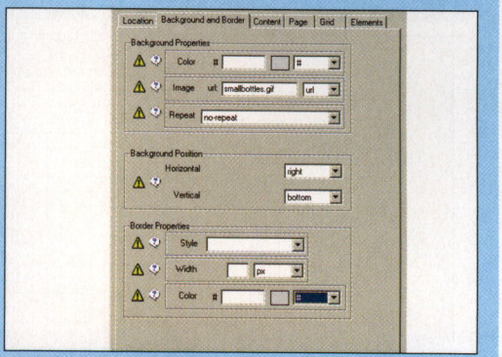
16 Apply background image

We won't worry about that for now. Instead, we'll apply a background image to one of the sections. A quick word of warning: there seems to be bug with the positioning command that may only enable you to select an alignment option in one plane – either horizontal or vertical. We'll show you how to fix it manually.



17 Point to image file

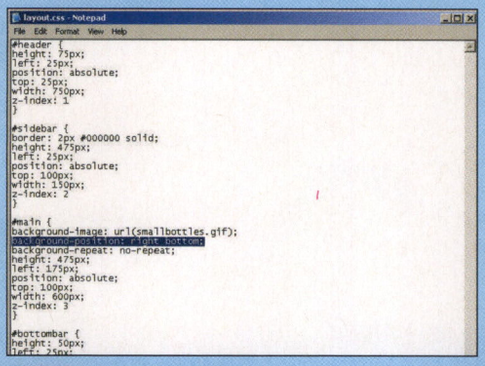
Copy any GIF image to the folder you've been saving your layout to on your machine. Select the layout block labelled main. In the Background and Borders section type '[name of your image].gif' into the Image URL: box. Make sure that you have selected no-repeat from the Repeat drop-down.



18 Position image

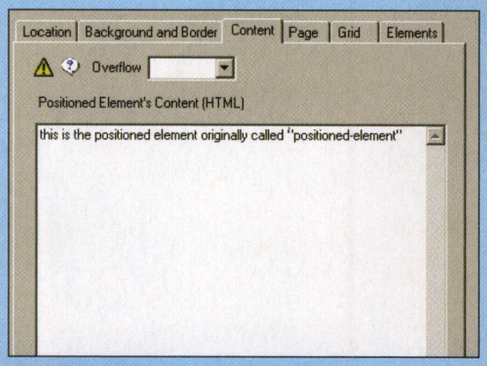
In the Background Position section, select right from the Horizontal drop-down menu and bottom from the Vertical drop-down. Save the file at this point. This is where that positioning bug may kick in. If this happens, one solution is to open up the CSS file in *Notepad* or another text editor.

ADD CONTENT



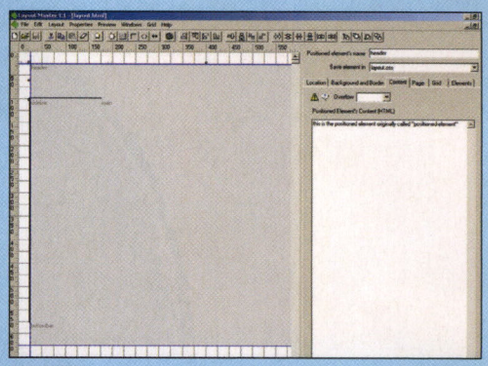
1 Change file

Find the entry for #main. The third line down should read something like background-position: bottom. Change it to read background-position: right bottom; then save the CSS file and switch back to *Layout Master*. You'll then be prompted to reload the changed file. Click Yes to continue.



2 Add dummy content

Layout Master is great with layouts, but not so good with content. The ideal thing to do at this stage would be to take your complete layout into *Dreamweaver* or a more advanced HTML editing application like *HTML-Kit*. For the sake of completeness, we'll add some dummy content to this template first.



3 Select header block

Select the header layout block, then click the Content tab. This section is basically a large text entry box – at the moment it is populated with the default text you saw when previewing your page earlier. If you choose to, you can enter HTML-formatted content directly into this box to add it to your layout.

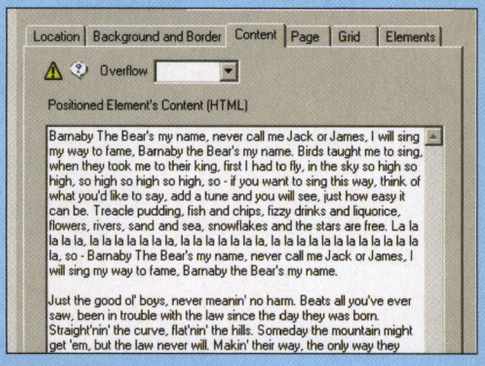

Location
Background and Border
Content
Page
Grid
Elements
Overflow
Positioned Element's Content (HTML)
Barnaby The Bear's my name, never call me Jack or James, I will sing my way to fame, Barnaby the Bear's my name. Birds taught me to sing, when they took me to their king, first I had to fly, in the sky so high so high, so high so high so high, so - if you want to sing this way, think of what you'd like to say, add a tune and you will see, just how easy it can be. Treacle pudding, fish and chips, fizzy drinks and liquorice, flowers, rivers, sand and sea, snowflakes and the stars are free. La la la la la, la la la la

image: Getty Images

On the cover CD

- All the files needed for this tutorial can be found on the CD in the Web Portfolio folder

Build an online portfolio

What's the best way to showcase your design talents? We talk to the folio presentation experts about building an online gallery using PHP with a mySQL database

Image is everything, at least in the world of advertising. Not that many designers consider themselves to be directly involved with advertising work, not even those who work chiefly for marketing executives. But advertising is fundamental to the success of any designer – nobody is going to hire someone they haven't heard of. As Jim Coudal of creative studio Coudal Partners observes: "As a designer, you need to look at yourself as a product."

Advertising takes many forms. At the most subtle level it's viral, with word of mouth bringing in new work. But for less established freelance artists and design studios working in illustration, web design, 3D, or in fact any artistic discipline, it takes a little more to get people beating a path to their door. The key tool for active self-promotion is the internet, where a website can provide visitors with instant access to a digital portfolio.

When used in conjunction with links elsewhere on the web (typically on forums and other designers' websites), an online gallery helps to reel in clients that may never have heard of you. And it works equally well as a stop-off point for potential clients who get in touch via other means, giving them an instant insight into what kind of work you do.

"It's now mandatory to have a website where you can showcase your work," asserts Don Clark at Asterik Studio. "We have many different people visiting our site daily, from students and aspiring designers to art directors. It's an important tool for us and one that we update as often as possible."

But can it really bring in that much new work? Freelance illustrator Andrew Rae believes so, suggesting that his own online portfolio has been crucial to establishing his reputation and career. "It brings in new clients all the time. In fact, I never chase work any more; it all comes to me via my site. And because it's easier to view my work, it's ideal to pitch with in the early stages of a job."

Acclaimed artist Richard May also reveals that much of his work springs from clients viewing his portfolio, both on his own website and his agent's. "It's usually the first port of call for art directors. I have a printed portfolio, but I rarely need to use it any more. I've not used a CD portfolio for ages, either."

Getting it right

Clearly, an online portfolio is a useful tool, but like any advertising tool it needs to be handled correctly. A portfolio has the potential to be interesting, informative and a pleasure to view. Done badly, it can have a profoundly negative effect. As Todd Purgason of Juxt Interactive warns: "If you want to make your mark with a portfolio, then you need to be creative, but there are eight million ways to blow it."

The trick is to approach an online portfolio in much the same way as a commission from a paying client, rather than simply fashioning something makeshift during a few spare moments between jobs. As simple as the concept of a portfolio is, there are many ways to design, compose and present it. Getting it right takes forethought, careful planning and an appreciation of what exactly you are trying to achieve.

Most importantly, a portfolio needs to reflect a designer's own talent and appear as commercially appealing to as many people as possible. "People too easily lose sight of the need to create something that connects with potential clients," notes Purgason.

"The trick is to approach an online portfolio in much the same way as a commission from a paying client"

Illustrator Andrew Rae believes that giving the visitor too much to take in, or forcing them to drill down through multiple levels to see all the work on offer, is not a good idea; such complexity can easily turn people off. "I do enjoy getting lost in someone's site, but if you want to build that kind of thing you still need to make it easy for people to take a quick look at your work. Then they can delve deeper if and when they have the time."

Being able to visit someone's website and almost immediately see what they have to offer can make all the difference in the competitive world of design. "People are always rushed for time," claims Coudal. "When a marketing manager needs to find a designer, the first thing they'll do is look on the internet. If you don't have the presence to make an impact the moment they look at your site, then you won't end up on their shortlist and you won't get the work."

The first task when constructing, rebuilding or refining a portfolio is, of course, to decide exactly what to put in it: whether to stick with one theme or show diversity; whether to focus only on commissioned work; how much content to include; how carefully to cherry pick what's included – it all adds up to a minefield for the portfolio apprentice.

Coudal suggests that less is more: "Just a couple of pieces will do." He reasons: "A unified presentation is always preferable to a comprehensive folio of half-baked ideas."

Most designers agree that it's better to focus on fewer strong illustrations than pad out a portfolio with lesser works. But do you have the objectivity to act as judge? "The only way to find that out is to show it to other people and watch their reactions," says Rae.

But what about work you've created for a previous client that perhaps doesn't best represent your artistic talents? Rob Corradi of design studio Preloaded warns against including such work. "If you think it's lacking, chances are a potential client will too, and they probably won't care who it was created for."

So should you focus on just one style or show as much diverse content as possible in your portfolio?

PUTTING YOUR PORTFOLIO ON TO CD

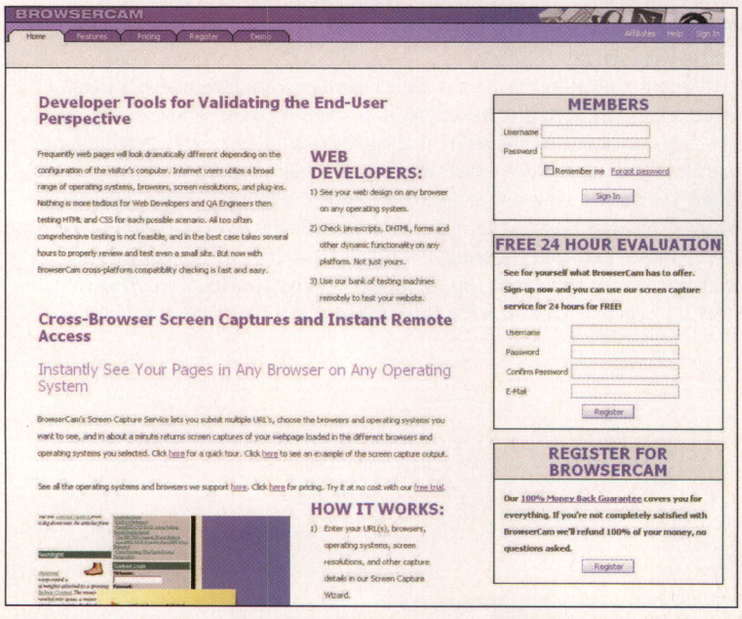
Nothing beats an online portfolio for accessibility, versatility and ease of updating. But there are times when something more tangible is needed – when meeting clients face-to-face or applying for a job. While illustrators may prefer to take along a traditional portfolio, a digital alternative burned to CD or DVD is just as effective.

An online portfolio must appeal to as wide a client base as possible, but a disc-based portfolio can be tailored specifically to each client or potential employer. "You need to communicate what you know about a company back to them, and make yourself appealing to them," explains Jim Coudal of respected design, advertising and interactive firm Coudal Partners.

To be appealing a portfolio must also be concise. If work is presented as a video file, try to keep it under the two-minute mark, focusing on just a few key pieces. A point-and-click presentation of illustrative work should be viewable within roughly the same time.

In terms of presentation, there are no hard and fast rules, but be aware of the need to present a unified theme. "That disc represents you and your art, right down to the way the menus are structured," stresses Coudal.

You may also need to post a CD or DVD for a third party to view. In these cases, include full instructions on how to use the portfolio, along with contact details and suchlike. Don't forget that presentation extends beyond what's on the disc itself. "A poorly kerned headline would be enough to stop me loading a disc," says Coudal. "The packaging is as important as the content."


BROWSERCAM
Developer Tools for Validating the End-User Perspective
WEB DEVELOPERS:
MEMBERS
FREE 24 HOUR EVALUATION
Cross-Browser Screen Captures and Instant Remote Access
Instantly See Your Pages in Any Browser on Any Operating System
REGISTER FOR BROWSERCAM
HOW IT WORKS:

Always test your HTML code before going live. "Use www.browsercam.com to see it working on just about every platform imaginable," advises Rob Corradi at Preloaded

Don Clark says two key considerations drove the design of its site, www.asterikstudio.com: making it fast and easy to update, with no Flash or music to slow things down

There's no doubt that showing many different styles or formats broadens your commercial appeal with potential clients, but you must be confident that, by attempting to cover all bases, substandard work doesn't accidentally slip through.

"At Asterik, we pride ourselves on the fact that we work in many forms of design and illustration, so I really like seeing diverse portfolios," enthuses Clark. "There's no need to pigeon-hole yourself into one style. – unless that's all that you do."

Strong content is a must, but many designers fail to appreciate that the presentation can be just as vital, perhaps requiring even more attention. Most important is the need to display your work in a pleasing, easily navigable way – along with any supplementary information and those all-important contact details, of course. Awkward menus, illegible interfaces that take an age to wade through and unnecessary frou-frou can all detract from the work itself.

"Most important is the need to display work in an easily navigable way – along with contact details"

"There's nothing more frustrating than a portfolio that is tedious to look at," emphasises Purgason. "All too often, people get carried away with the presentation layer, and then you find that the work itself is rubbish. It's almost like they're trying to hide it using a fancy wrapper."

Think it through

"When you're putting together a portfolio site it's pure information design, whether there's reams of copy or the briefest of text, or even just images," declares Corradi. "A usable navigation that takes the visitor through some well thought-out sections is key to making sure people get a solid sense of who you are, what you do and how well you do it."

Coudal agrees: "I can't tell you the times I've clicked on a link and known within 15 seconds that the person wasn't up to scratch." He continues: "Sites obviously hacked together from a *Photoshop* file and with bad use of typography are two typical mistakes. And people working as web designers need to make sure the code for their site and portfolio doesn't contain any gobbledegook from a WYSIWYG editor. It's important to demonstrate that you can code by hand."

But how do you put together a website that makes viewing the portfolio plain sailing when your area of expertise isn't, say, Flash? Corradi suggests viewers will be more forgiving if an illustrator or motion designer doesn't have the most ambitious of websites.

"Whatever your level of competency, you should spend time ensuring that what you show is presentable and markets your work in the best way," he stresses. "Get a friend who is Flash-savvy to help you pull your site together if needs be. And if you don't know anyone Flashy, find someone online. The internet is a collaborative place; you'll be surprised how helpful complete strangers can be."

But there's more to presentation than ease of use: the style of presentation is equally important. This isn't merely about aesthetics, and it's not only web designers who need to apply creativity in this way.

It may be tempting to resample a successful portfolio design seen elsewhere, but while this results in something tried and tested, even subtle pilfering is likely to be noticed. "Being able to emulate trends can be a good thing, but don't make it the core experience by applying it to the interface," warns Corradi. "Most design agencies will probably have seen these trends way before you, and will assume that you aren't capable of doing your own thing."

At the least, it's wise to tie the site thematically to the message you are trying to convey. "A folio can jar if it doesn't reflect the same language as the work," Rae points out. But for the ultimate eye-catching portfolio, nothing can beat a design that itself is as much a reflection of a designer's talents as the contents.

Just as clients are more demanding than ever, so potential clients are more discerning. As such, they'll expect to see designers treat the portfolio as a creative challenge in itself – failing to impress isn't an option. As Corradi asks: "If a designer can't present their own work well, what hope is there that they'll present the work of a client with any competency?"

TO FLASH OR NOT TO FLASH?

If accessibility is a key feature of the successful online portfolio design, where does that leave the use of plugins, particularly *Flash*? Most designers agree that the Macromedia application is so ubiquitous it poses little problem for visitors, although it's wise to avoid creating a site using the very latest version. However, it is better at some tasks than others.

"You need to be careful how you use fonts," advises Preloaded's Rob Corradi. "If you have to use small text, stick to pixel fonts that make sure your text remains legible. Flash can be a hindrance if clients want to print out illos from a portfolio, too."

Where Flash does excel is for portfolio sites with video presentations and a high level of interaction. Furthermore, it helps reduce browser/platform compatibility issues, thus minimizing site-testing time. The difficulties with Flash actually arise from how it's used.

"While a clever design might leave the Flash community frothing at the mouth, the people you need to appeal to might just find it annoying," suggests Todd Purgason of Juxt Interactive. As a general rule, animations should be kept to a minimum (unless you're trying to demonstrate such Flash skills), particularly when used on laborious splash screens.

"Some people also hate pop-ups, but I like them," says Andrew Rae. "You can keep an image you like on screen while you look through the rest of the site, and it means I can put new work on the site without changing the home page image."

TEN GREAT FOLIO SITES

1 www.andrewrae.org.uk
Illustrator Andrew Rae taught himself about website design, then created his own portfolio. "There's a lot to learn, but the advantage of doing it yourself is that it's so much easier to update."

2 www.richard-may.com
Richard May's online portfolio reflects a very selective approach to content. "I only ever update it with work I'm happy with, regardless of which client each illustration was for and how old the work is."

3 www.archimediadesign.com
Richard May called upon Brett Archibald (**www.archimediadesign.com**) to put his original site together, using *Photoshop* mock-ups as reference. "Sam Gilbey (**www.personalspaceinvaders.co.uk**) also gave it a makeover earlier this year," says May.

4 www.preloaded.com
Preloaded showcases just a few of its projects on its portfolio. "Always go for less is more. Often people just want to see the heights you're capable of achieving."

5 www.juxtinteractive.com
"Try to be memorable," advises Todd Purgason. "A lot of stuff you see is glossy and boxy. We wanted to make an impact on first view, so went for something a little different without being over complicated."

6 www.jemmahostetler.com
Designer Jemma Hostetler takes special care to note the projects that were collaborations and credit them accordingly. Be clear about what parts of the project you were responsible for.

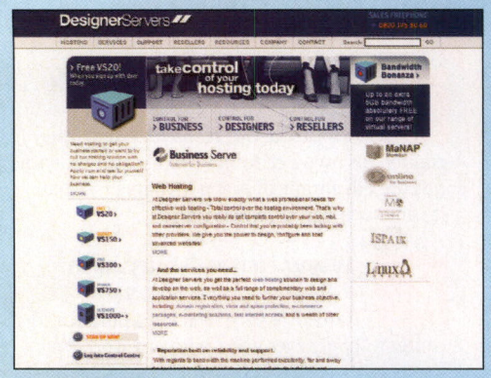
7 www.jonburgerman.com
Designer Jon Burgerman presents his complex portfolio in as simple a way as possible. "Don't add any bells and whistles to the process," says Don Clark of Asterik Studio.

8 www.mayıreboot.com
This isn't a portfolio site, but it's a bookmarking must. "It is a great place to see many personal and promotional sites all in one place," says Rob Corradi.

9 www.mecompany.com
Mecompany has approached its portfolio as a creative challenge in itself. As Rae says: "Design your portfolio to complement your work and keep it simple."

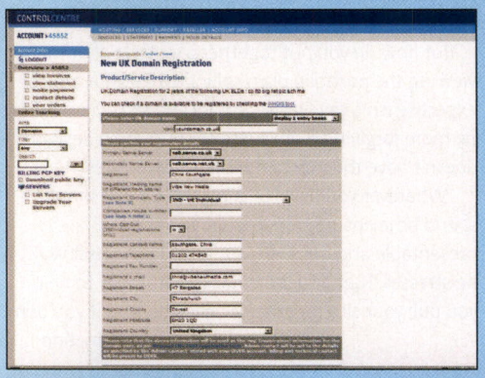
10 www.asterikstudio.com
Asterik Studio supplements its portfolio with an online store and a personal bio section. Don Clark says: "It's a great way to get our name and work out there."

CREATE A WEB PORTFOLIO



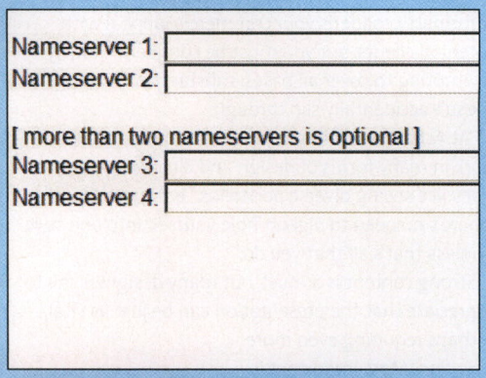
1 Choose a web host

Choosing a hosting provider can be difficult when there are many options available. For this tutorial we're using Designer Servers (**www.dsvr.co.uk**), but the choice is yours. Whichever company you choose, you should be able to sign up online.



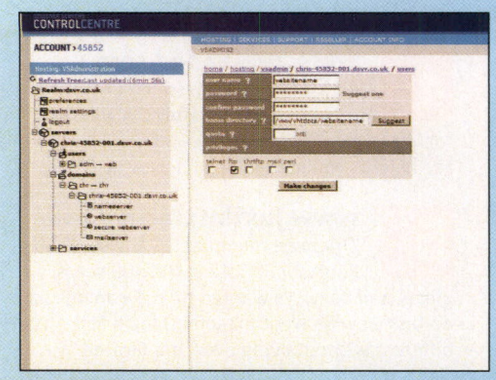
2 Buy a domain

Following the simple DSVR hosting sign-up, wait for your confirmation email and log into your control centre. From here you can buy a domain. You can also do this via a third party, but we suggest that you stay with one supplier for simplicity.



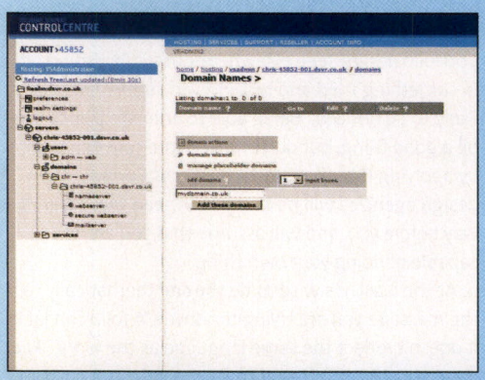
3 Set the nameserver

Once you've bought the domain, you need to tell other web users where the domain should be served from; this is called the nameserver address. Generally, the provider of the domain name will set the nameserver to its own hosting company, but you should be able to change this easily.



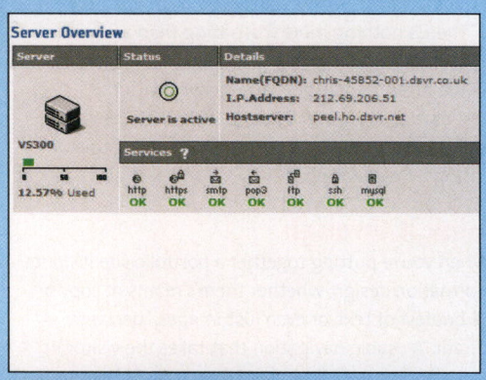
4 Set up a user

Next you need to set up a user. Log into your admin area, VSAdmin for DSVR, and click Add User. Choose your own user name and password, and make the home directory something logical, such as /www/vhtdocs/mysite. Now give it FTP permissions.



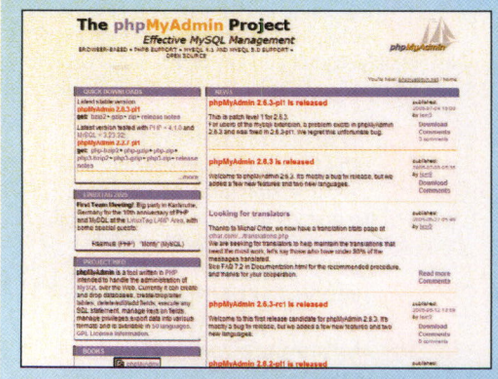
5 Configure your server

Once a domain is pointed at a server (this can take up to 72 hours) and a user is in place, you need to configure your server. In your admin area, add your domain to the web server. Use the same directory as above for your web directory. You then need to reboot the server.



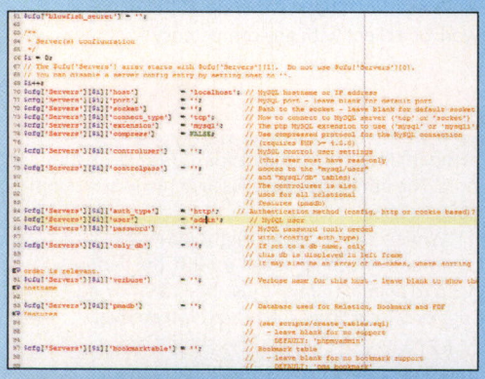
6 Enable mySQL

Some servers have mySQL enabled by default but many don't. Often it's quickest just to submit a support ticket to the support team or telephone for support, because enabling mySQL is different for every host. You can usually find documentation on the support systems, too.



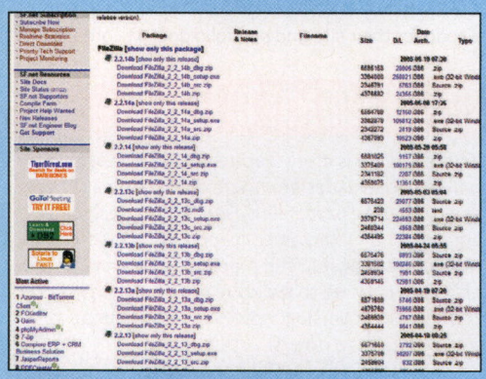
7 Download phpmyadmin

MySQL needs a separate tool for its configuration, and the preferred one across the industry is phpmyadmin. Go to **www.phpmyadmin.net** and download the zip of the latest version then unzip it to your hard drive.



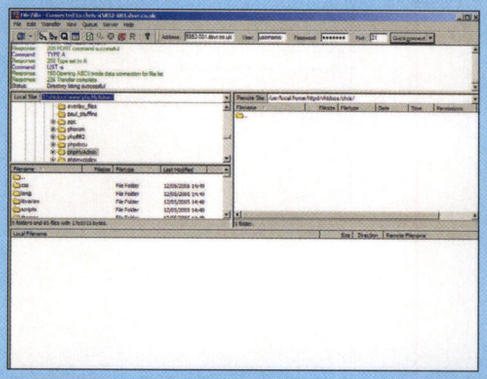
8 Configure phpmyadmin

You need to configure phpmyadmin for your host, and each one is different. Open the config.inc.php file in the phpmyadmin directory and set the auth type to HTTP and the user name and password as per your host's documentation. For DSVR, the standard is 'admin' with no password.



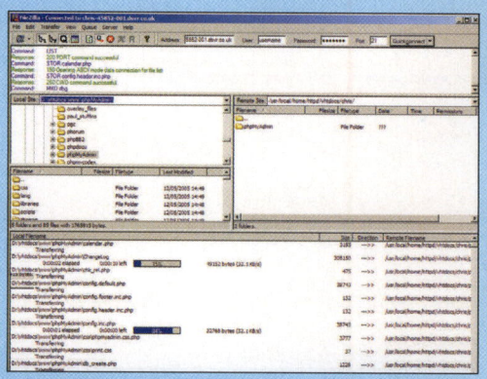
9 Get an FTP client

Now you need an FTP client to upload phpmyadmin to your server. If you don't have an FTP client already and are using Windows, nip over to **http://filezilla.sourceforge.net** and download *FileZilla*.



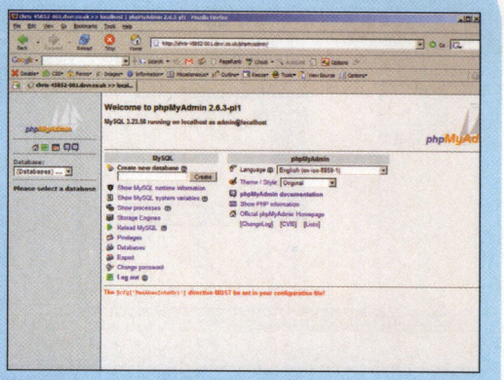
10 Set up FTP client

When you've downloaded and installed your FTP client, type your domain name into the quick connect box, along with your user name and password for the users that you set up. Hit Connect and you should see a self-explanatory directory tree.



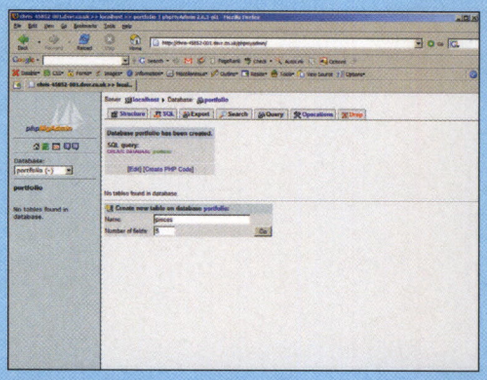
11 Drag files to server

Locate the phpmyadmin directory on your hard drive and drag the files up to the server. Depending on your connection, this could take a while, but once it's complete you should be able to access phpmyadmin by going to **http://mydomain/phpmyadmin**.



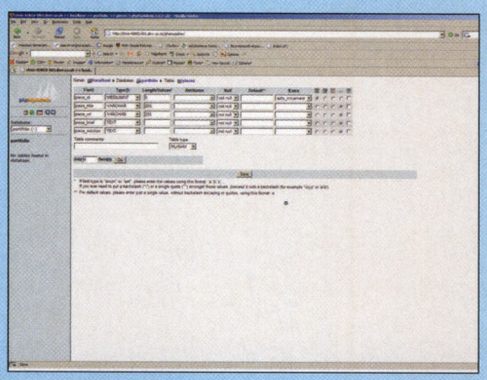
12 Enter user details

You should be prompted with a user name and password box. Enter the user name and password you entered into the phpmyadmin config file earlier. Here you have full access to the mySQL server.



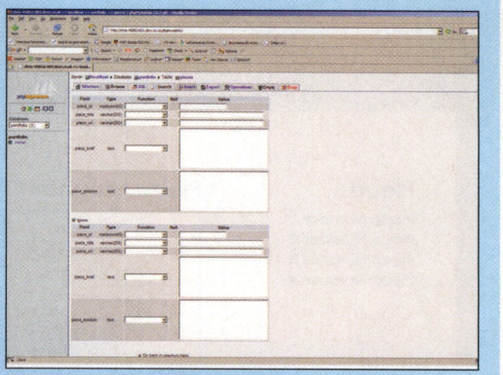
13 Create a database

Now it's time to start the database. In the Create a New Database field type 'portfolio' and click Add. In Create New Table type 'pieces' and enter 5 in Number of Fields, or click SQL and choose a file upload. Locate the SQL file on the CD and hit Go.



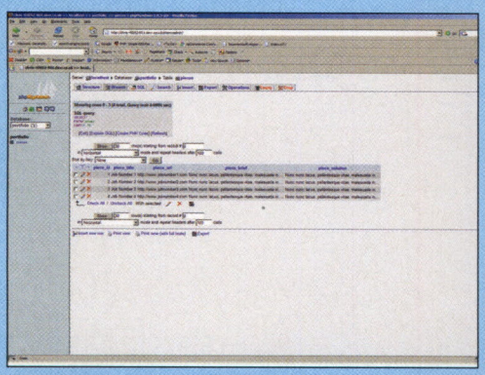
14 The piece_id key

With the field choices now available, refer to the database layout above. The idea is to have the piece_id as a unique key which is automatically increased for every record.



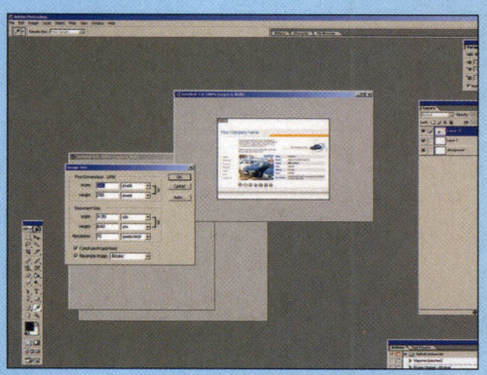
15 Enter your data

When the table has been created, you can start adding your work. Just click on the Insert link and you're presented with a form to enter two records. Now's a good time to go through and start that data input. Just don't enter a piece_id because the server does this for you.



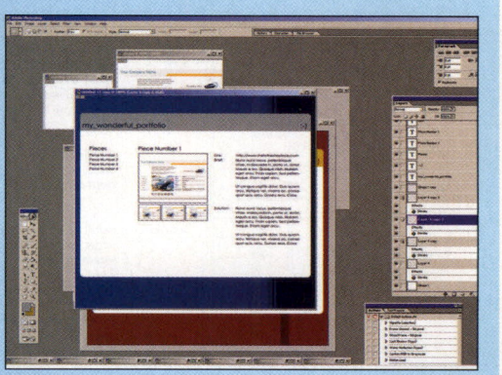
16 Check your records

Once you've entered your records, take some time to look at the browse area. From here you can edit (the pencil icon) and delete (the cross icon) all of the records you've entered. It also gives you a summary of the number of items there.



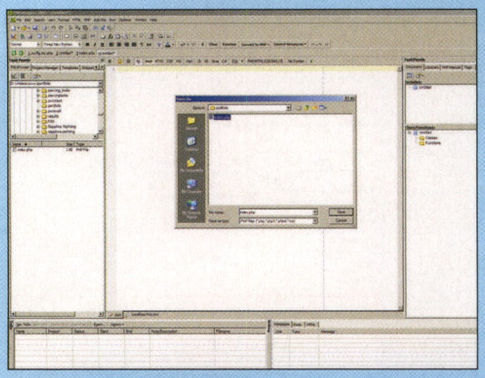
17 Create images and thumbnails

Every piece will have three images and three selector thumbnails. Create three large images and three thumbnails for each piece following the naming convention "portfolio< piece_id >_<1, 2 or 3>.jpg" and "portfolio< piece_id >_<1, 2 or 3>thumb.jpg" respectively.



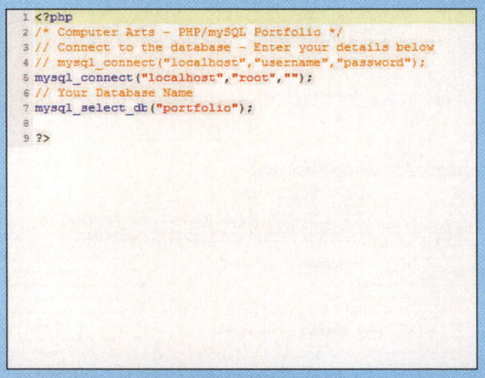
18 Design main page

The next step is to create a design for the main page, but this isn't really necessary if you're just inserting this portfolio into another site; a quick mock-up in *Photoshop* will suffice. Here is the layout we'll create, but, as you'll see, this portfolio is very adaptable.



19 Create a web page

If your parent site is already created, skip this part – we're creating a new web page. Do this in any text editor except a freeware package (see **www.mpsoftware.dk**). Create a new folder on your hard drive called 'portfolio' and a file in it called 'index.php' (this is on your cover disc).

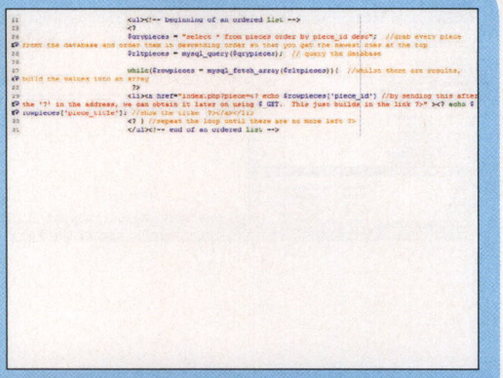


```
<?php
/* Computer Arts - PHP/mySQL Portfolio */
// Connect to the database - Enter your details below
// mysql_connect("localhost","username","password");
mysql_connect("localhost","root","");
// Your Database Name
mysql_select_db("portfolio");

?>
```

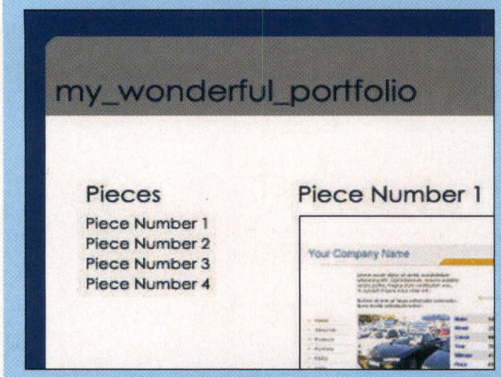
20 Connect to database

The page is structured from top to bottom, left to right, so let's start at the top and look at how it works. First, connect to the database using the top commands mysql_connect and mysql_select_db.



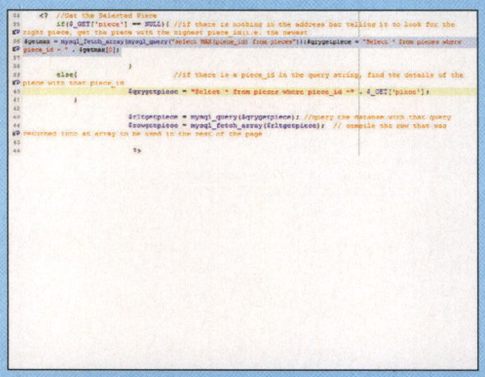
21 Generate piece list

Now you have to generate the list of pieces, and because you need to keep on selecting the piece name from the database, you need to put it in a loop. All that's being said in this piece of code is: first, get the results, and while there are results, output them to an array.



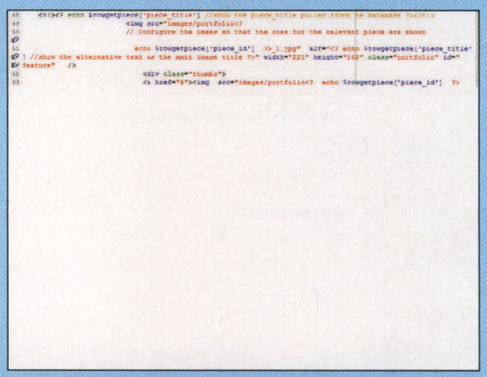
22 Set up loop

The loop begins at line 24 and continues to the '}' at line 30, and that is the part being repeated. The repetition causes more and more list items to be added to the unordered list until there are no more records in the database to be added – at which point it moves on.



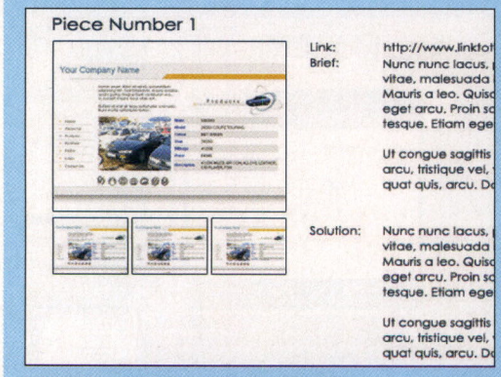
23 Project order

Naturally, the first project we want to appear is the newest one, which will be the one with the highest piece_id if a link has not been clicked. Lines 36-40 decide if this is the first page or a clicked link and change the query to suit.



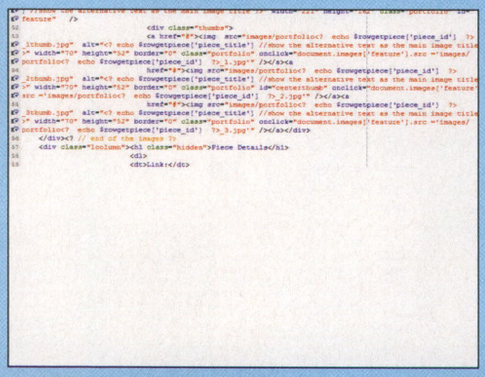
24 Select image source

You need to include that big picture which needs an id all of its own. This is to enable you to change the image source using JavaScript. This way you can set up the onclick attribute of the thumbnails to switch the large images using "document.images['feature'].src" (line 53).



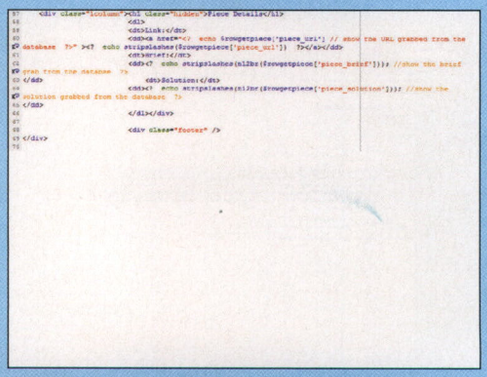
25 Arrange thumbnails

Next you need to sit the three thumbnails in a div underneath the main image. To achieve this, simply open a layer under the main image and use the tag while giving these images, along with the main featured image, the same class ("class='portfolio'").



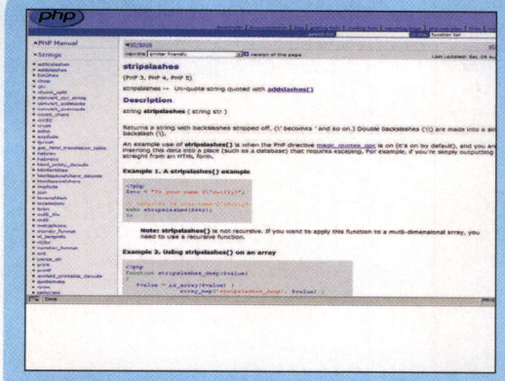
26 Assign attributes

Making the switch is easy. On each of the thumbnail images, give it an onclick attribute of "document.images['feature'].src ='images/portfolio<? echo $rowgetpiece['piece_id'] ?>_X.jpg" where X is 1, 2 or 3 depending on the image number.



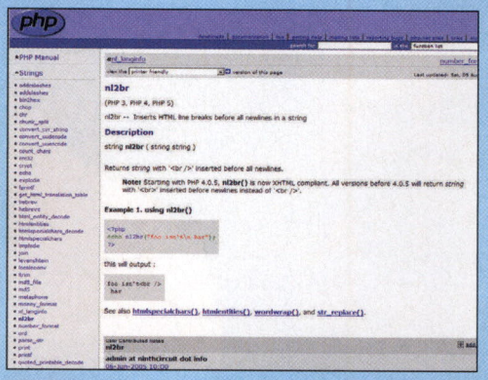
27 Use a definition list

To show the information about the piece, use a definition list (<dl>). So in the code, state a title (for example, The Brief) and then elaborate on it with a definition using the <dt> and <dd> tags between lines 60 and 66.



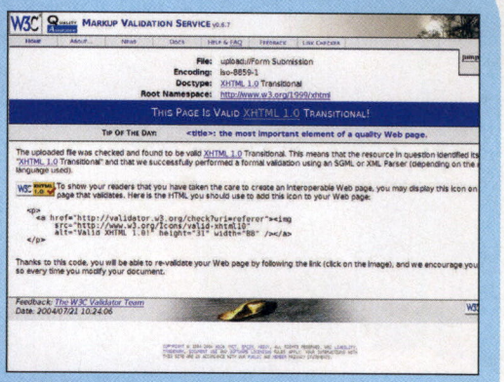
28 Stripslashes function

To avoid trouble with data input, PHP will automatically insert slashes before certain characters to let them be ignored. Using the stripslashes() function soon gets rid of those pesky escape characters. This can be seen on line 60 and at **http://uk.php.net/stripslashes**.



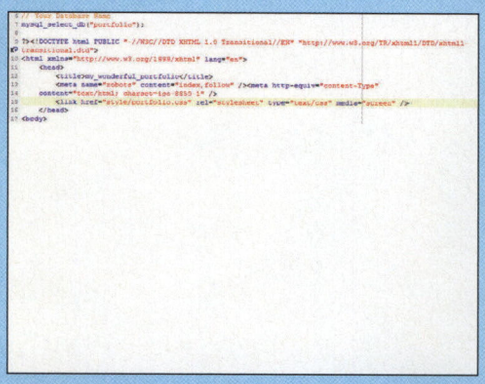
29 Convert new lines

With large text fields like the brief, it's important to turn new lines in the data entry into something that can be understood by the browsers. Use the nl2br() function around the piece of data to convert the new lines automatically as seen on line 62 (see **http://uk.php.net/nl2br**).



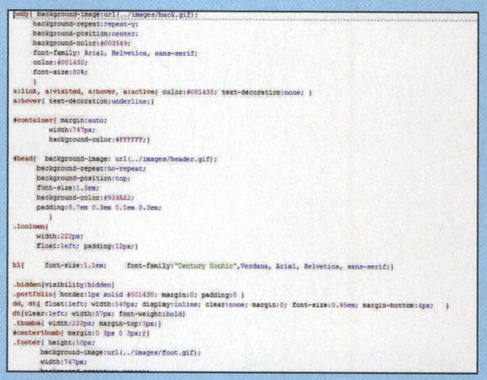
30 Check the footer

Before we finish looking at this part of the code, don't forget the footer. Because layers are floated to the left, you need the footer to 'pull' the white layer down. Make sure that any amendments you make are validated, by testing the file at **http://validator.w3.org**.



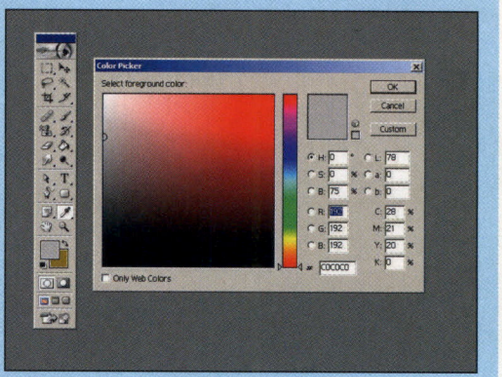
31 CSS link statement

When using CSS, all the content is stored separately to the styling information, but you have to make sure that there's a proper link between them. On line 15 you can see a link statement. As long as you have this, the style sheet will be applied to the content.



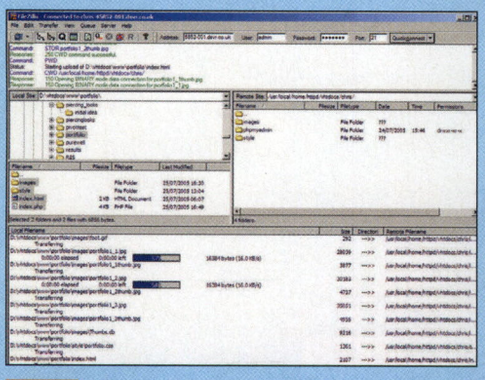
32 Check CSS information

If you open up the portfolio.css file from the cover disc, you can see not only the styling information but also the information about the position of the elements within the page. You can change things in this file without the possibility of destroying the content.



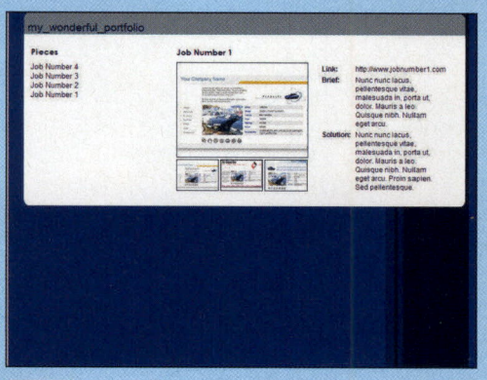
33 Colour hex codes

Colours are interesting in the CSS document because they're coded using hexadecimal colour codes. To find a hex code for your colour go into *Photoshop*, select the colour and double click it in the colour palette. The six-figure alpha-numeric code is the hex-reference.



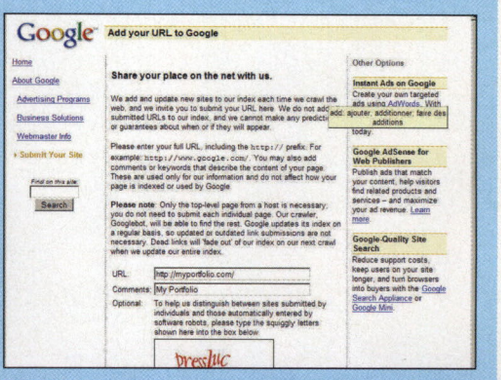
34 Upload to web server

Re-open your FTP client and connect to the site again. Then upload the new files and folders to your web server – index.php, the style directory and the images directory, which includes all of your database images.



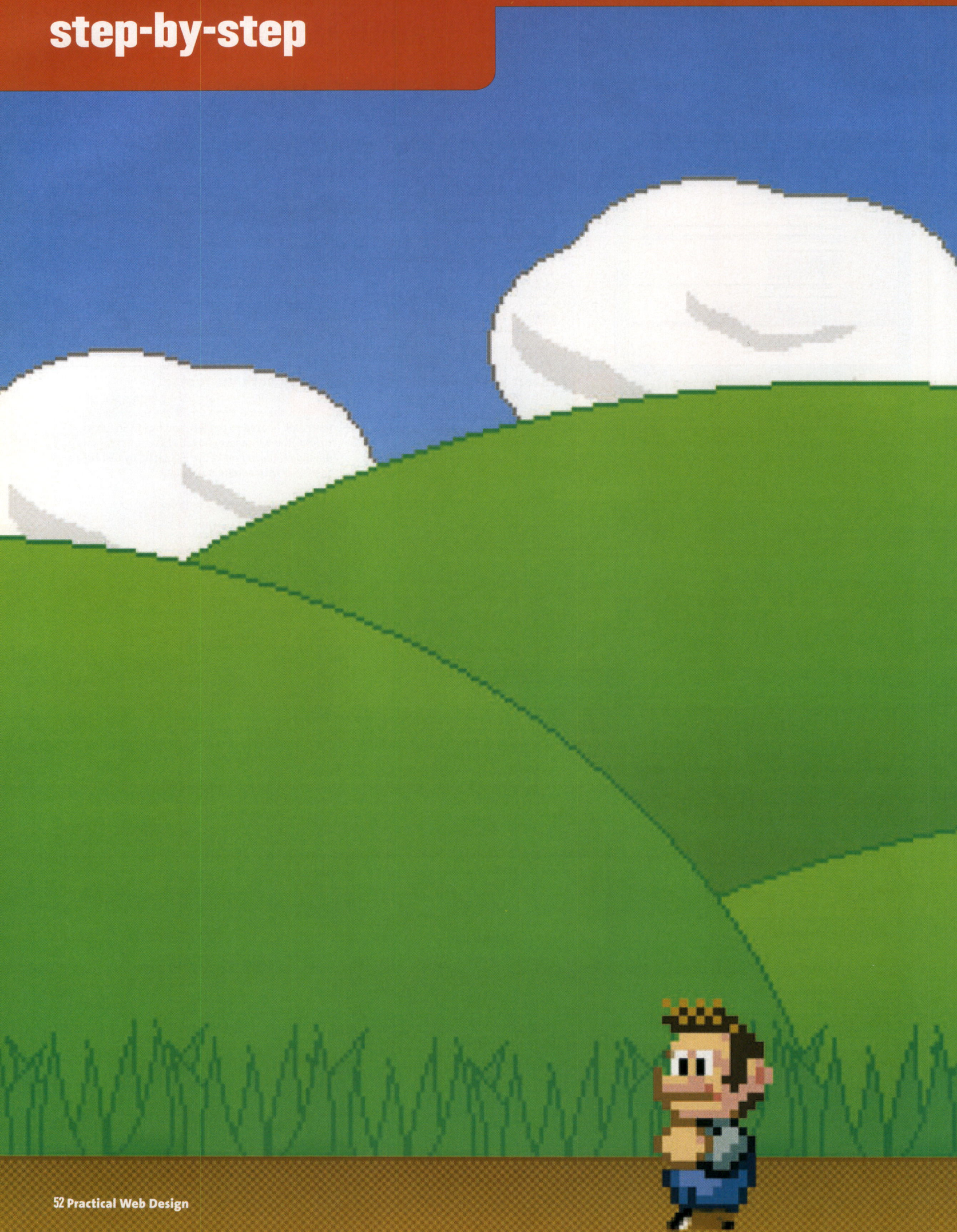
35 Check over and test

Before showing anyone, it's always a good idea to do a test to make sure no gremlins have crept into the code. Also, it's wise to check your database for spelling mistakes.



36 Publicise your portfolio

If your portfolio is up and running, don't forget to tell people about it and submit it to Google using **www.google.com/addurl**. You may even want to build some more pages around it to establish a complete identity on the web.



Build game characters in Flash

Design controllable, game-style characters in Studio, and bring them to life with Flash ActionScript

Developing games is a complex process. You need to design your game logic and architecture, and organise your Flash games so that they're dependable and bug-free. Another aspect of producing games is, of course, movement and control. Platform games, racing games, shoot 'em-ups; they all involve the control of character sprites. The best ones make that control feel natural and easy to grasp – think about how intuitive the classic Super Mario games were.

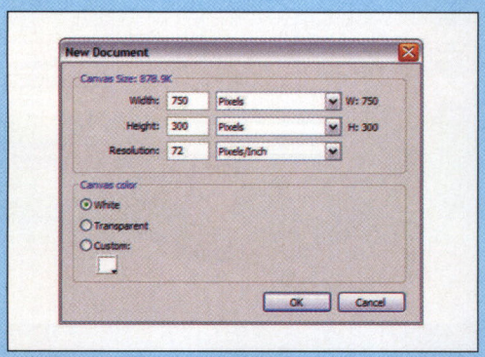
"The last 20 years of video games have produced countless fantastic examples of pixel art characters"

In this tutorial we're going to develop a reasonably simple ActionScript 2.0 class that enables the user to control the movement of a MovieClip with the left and right keys. Much like any decent platform game, the class will use acceleration and inertia to create more intuitive movement. The class will extend the MovieClip so we can apply it to any MovieClip and hence potentially create several characters.

Having created your character class, you might need to write a new class that governs how the character interacts with his environment. For example, you could write a collision class that will monitor your character's position in relation to other objects.

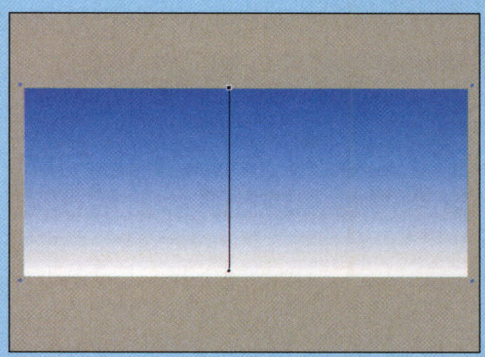
We're going to use *Fireworks* and *Flash* to create an old-school pixel art character and background for our movie. Effective pixel art can be a difficult discipline to master, but the last 20 years of video games have produced countless fantastic examples of the genre, and the web is brimming with sites dedicated to them. If you don't have *Studio* you can download a trial version at **www.macromedia.com/software/studio**.

DESIGN A BACKGROUND IN FIREWORKS, AND CREATE A MOVIECLIP IN FLASH



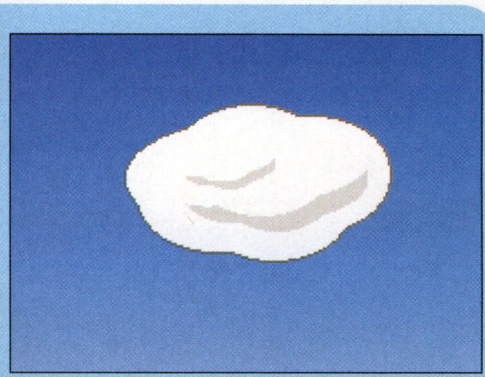
1 Create a new file

We're going to begin with *Fireworks*, so open the program and choose File > New. Give the document dimensions of 750x300 pixels, leaving the resolution at a screen-based 72dpi. The dimensions we've picked give a compact, widescreen effect, which will fit neatly on any 800x600 pixel screen.



2 Create the background

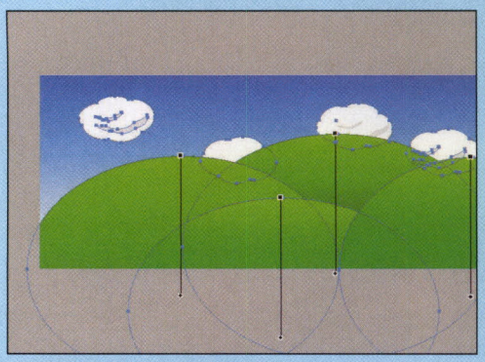
Choose the Rectangle tool and draw a box that covers the entire canvas. With the box selected, move down to the Properties panel, and apply a gradient fill. Using the Selection tool, you can rotate the gradient so that it's vertically orientated. Next, pick the Oval tool, ensuring that you're on a layer above the gradient rectangle.



3 Create a cloud

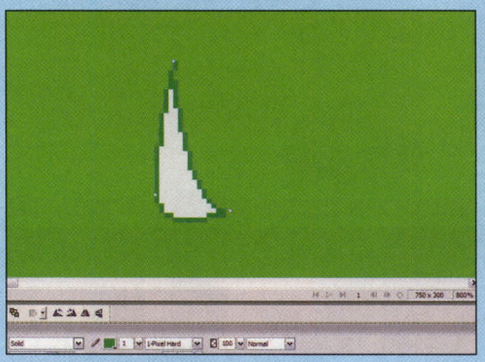
In the Properties panel, make sure the fill edge is set to Hard, and the stroke value is Pencil, 1-Pixel Hard. This will enable you to draw neatly pixelated shapes. Choose a white fill and a grey outline, and draw a few overlapping shapes. When you've got something that resembles a cloud, choose Modify > Combine > Union.

DESIGN A BACKGROUND IN FIREWORKS AND CREATE A MOVIECLIP IN FLASH, CONTINUED



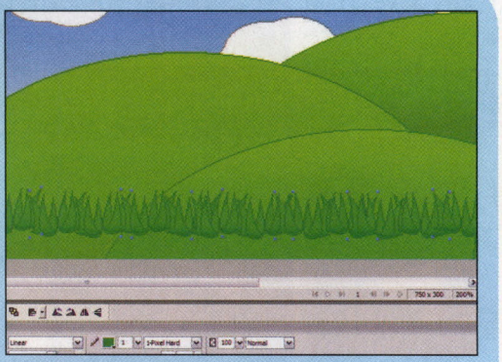
4 Create the hills

Group your cloud, then make multiple copies and spread them around the sky. When you're happy with your pixelated cloudscape, select the oval tool again, and draw out some cartoon-style hills. As above, apply a vertical green gradient, again ensuring that your fills and strokes have hard edges.



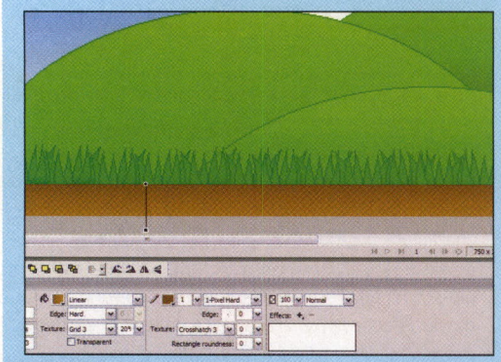
5 Create some grass

Next, we're going to create some pixelated grass. Draw a rectangle, and use the Subselection tool to delete one of the points. Then choose the Pen tool, and select one of the remaining points. By subtly dragging the mouse you can warp the sides, and create a blade shape that will form our stylised grass.



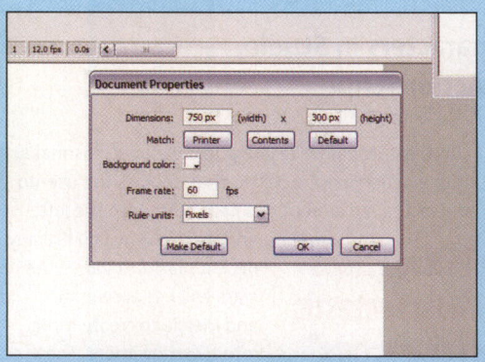
6 Add more grass

Back in the Properties panel, apply a dark-to-light green vertical gradient fill, and group your shape. Copy and paste a few of these blades, tweaking their shapes and position a little to add variety to their appearance. When you're done, again copy and paste the grass across the width of your document.



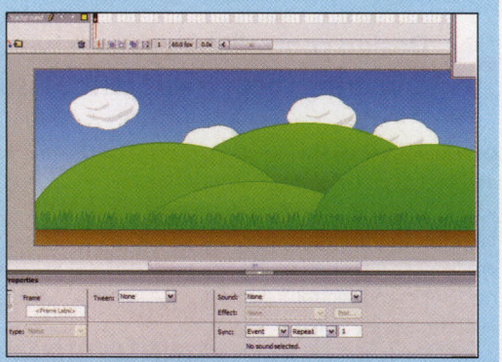
7 Add the ground

The last thing we need to add is the ground our character will be placed on. For this, all you need to do is choose the Rectangle tool, and draw a shape that covers the bottom of the document. Apply a subtle brown, vertical gradient, and choose a texture from the Properties panel, such as one of the Grid options.



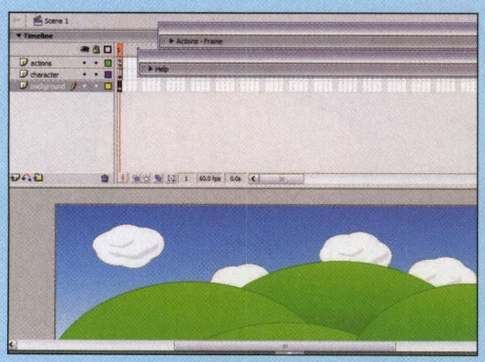
8 Create a new Flash file

Save your *Fireworks* file as background.png, and then open *Flash*. Create a new document, and double click the framerate just below the timeline. Give the movie the same dimensions as your *Fireworks* file, and a suitably quick framerate of 60fps. High framerates such as this ensure silky-smooth playback.



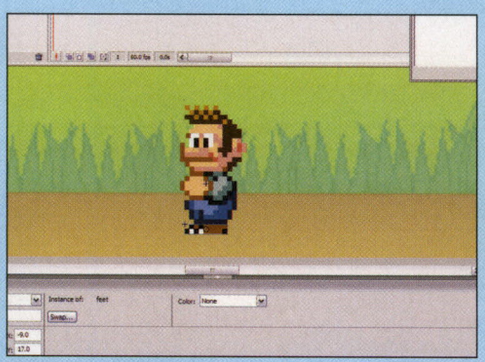
9 Import the background

Create a new layer on the main timeline, and call it something appropriate, like bg or background. Choose File > Import > Import to stage, and browse to your background .png file. In the dialog box, choose 'Import as single flattened bitmap' – this will place the background image you created on the stage.



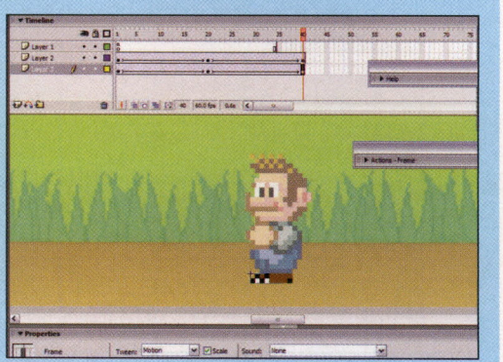
10 Create the character layer

Create another new layer, called actions, and open the Actions panel (Window > Actions). Type out a simple stop(); action. That's all the code we need for now – we'll write the rest out later on. Next, create another new layer, above the background, called character; this is where we're going to create our character.



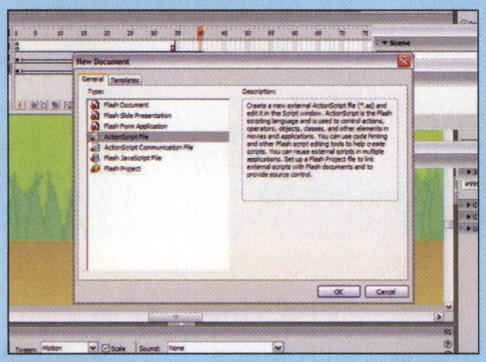
11 Create the character

Draw a square using the Rectangle, and convert it to a MovieClip called block. By copying and pasting the block several times, changing the colour and size, you can begin to build up a pixel character design. When you're done, select the character's shoes, and convert them to a MovieClip symbol with the instance name feet.



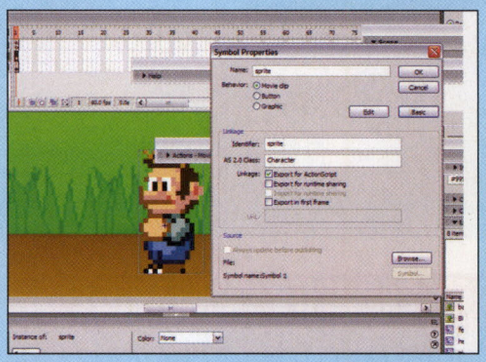
12 Animate the character

Inside the feet clip, use traditional motion tweens to create a looping walk animation that lasts for exactly 40 frames; don't forget to make good use of easing for this process. We'll be controlling this animation via our ActionScript code later in the tutorial, so simply add a stop(); action on the first frame.



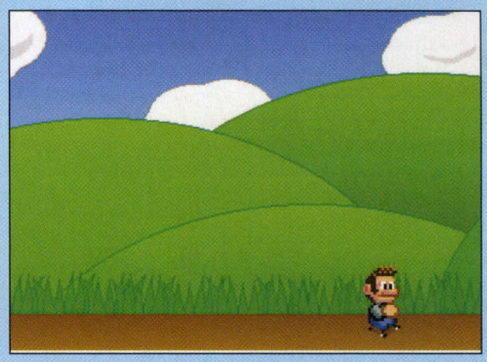
13 Create an ActionScript file

That's almost it for our .fla file. Next, we have to create a new ActionScript file, which we do by choosing File > New. This will be where our actual code goes, so it must be located in the same folder as the .fla file. Save your file as Character.as, and type this month's code into it (see tutorials two and three).



14 Create the Character class

Finally, return to *Flash*. Convert your character to a MovieClip symbol (Modify > Convert to Symbol) and open the library. Right click on the character, and choose linkage. In the field that says AS2 Class, type Character. This means that *Flash* will treat your MovieClip as an instance of the Character class.



15 View your movie

That's all there is to it! To view your completed movie, choose File > Publish Preview > Flash. If all has gone to plan, you'll be able to control your little character with the left and right arrow keys. Once you've got a grip on this, why not return to your code and implement functionality such as jumping and running?

CREATE A NEW CHARACTER CLASS

One of the great things about ActionScript 2.0 (apart from the numerous advantages that go hand-in-hand with true Object Oriented Programming) is that it enables you to extend existing objects. This is not quite the same as AS1 prototype syntax, however, which enabled you to create new methods for the MovieClip, for example. In AS2, you can create classes that wrap around objects such as the MovieClip. What this means is that you can declare a MovieClip as being an instance of a given class. In the following example, our Character class extends the MovieClip, so we can simply say that a given MovieClip can be a Character, and hence, take on the properties and functionality that that Character provides. In terms of actual functionality, the Character class enables its MovieClip instance to move around the screen according to presses of the left and right keys, much like a standard game sprite.

1 **Line 1:** To declare an ActionScript class, you simply need to begin your .as file with the class keyword. Note that the name of the class must match the name of the file, including case sensitivity. As we mentioned, our class extends MovieClip, which means that it inherits all of MovieClip's methods and properties. This also means that we can make any MovieClip an instance of the Character class.

```
class Character extends MovieClip {
```

2 **Lines 2-9:** It's good practice to declare class variables; these are variables that are available to all of the class's methods. Notice how we provide a type for each variable. ActionScript 2.0 is optionally-typed language; you don't have to specify a data type for each variable, but the facility is there if you need to. Typing is actually a very useful concept, and using it helps prevent bugs, because the Flash compiler will highlight potential conflicts before they happen.

```
var speed:Number = 0;
var maxSpeed:Number = 20;
var accel:Number = 0.5;
var moving:Boolean =  false;
var dir:String;
var fr:Number = 0;
var frmem:Number = 0;
var feetClip:MovieClip;
```

3 **Lines 10-14:** In this segment, we create the class constructor function. This is a function with the same name as the class (in this case Character) and is called each time a new instance of the class is declared. It's useful for initialising start-up values and defaults; in our constructor we assign two functions, charKeyDown and charKeyUp to their respective key events. Finally, we then make the class (as referenced by this) a listener of the main Key object.

```
public function  Character() {
  this.onKeyDown =   charKeyDown;
  this.onKeyUp =   charKeyUp;
  Key.   addListener(this);
}
```

4 **Lines 15-27:** The charKeyDown function is called, unsurprisingly, whenever a key is pressed. The first thing it does is set up a switch statement based around the code value of the pressed key. If the key is the left arrow (Key.LEFT), we firstly set the MovieClip's _xscale value to 100. Since our character begins the Movie facing left, this means they will face left whenever the left key is pressed. Next, we check to see if the character is moving. If it isn't, we either move it or slow it down before turning it around (in this way we can create an inertia effect that makes our character seem more life-like).

```
function charKeyDown():Void {
  switch (Key.getCode()) {
  case Key.LEFT :
    this._xscale = 100;
    if (!(moving)) {
      if (this.speed>0) {
        charKeyUp(true,       "left");
      } else {
        this.dir =       "left";
        this.move();
      }
    }
    break;
```

5 **Lines 28-40:** The second case we consider in our switch statement is what happens when the right arrow key has been pressed. If it has, we do the opposite to the previous statement, reversing the _xscale and calling the move function again. Notice how we set the class variable this.dir to right. This variable is retained inside the class, and is available to other methods. It simply stores the current direction of movement, so that the key release handler knows how to respond.

Naturally, this isn't the perfect solution – not just yet anyway. Next time you're playing a platform game on your PlayStation or Xbox, take a look at the way game sprites respond to your controller commands. A tremendous amount of work usually goes into creating the right feel for them. For example, our game character slows down and accelerates in the right sort of manner, but if you watch the Super Mario game you'll see that the

CREATE A NEW CHARACTER CLASS, CONTINUED

sprite shows different animations depending on how quickly you change direction: for example, he skids when he changes direction at high speed. This isn't a difficult effect to implement, but it does require some forward planning. If you want to create several different animations you'll need to constantly monitor speed, and fire off the different animations based on this.

```
case Key.RIGHT :
 this._xscale = -100;
 if (!(moving)) {
  if (this.speed>0) {
   charKeyUp(true,      "right");
  } else {
   this.dir =       "right";
   this.move();
  }
 }
 break;
}
}
```

WRITE A MOVE METHOD THAT CONTROLS THE CHARACTER'S MOVEMENT

ActionScript 2.0 does have its foibles, and one of the biggest is scope (the way to access variables and methods from different locations). The language has such a wide variety of potential usage techniques that in some combinations they can be quite difficult to get right. Scope can be a real headache in certain situations. A good example (and the one we run into in our Character class) is the use of events inside classes. For example, in our class we want to listen for key presses. The standard way of doing this outside a class is to create a new listener object to listen for specific events and act accordingly. Unfortunately, doing this inside a class causes problems, because the listener object simply cannot locate other methods within its parent class. This means we have to make the class itself listen for events, and then call methods using the 'this' prefix.

1 **Lines 1-6:** When the user releases a key, we want our character to decelerate to a standstill. The time taken to stop will obviously depend on the speed the character was travelling when the user lifted their finger. However, it might be that the user wishes to travel back in the opposite direction. The charKeyUp function therefore takes two parameters: reverse and newDir. These are used inside an onEnterFrame statement which first decelerates the character.

```
function charKeyUp(reverse:Boolean, newDir:String):
Void {
 this.moving = false;
 this.onEnterFrame =   function() {
  if (this.speed>0) {
   this.speed -=      this.accel;
  } else {
```

2 **Lines 7-15:** Once we've decelerated (ie. moving is false), we check to see if we've been passed a true reverse value. If so, we then set the new direction and set the character off moving again. If not, then the character has stopped, so we can trace out a quick notice to say that the movement is done. Notice that we also tell our feet animation to play once. This gives the impression of the character trotting to a standstill, and ensures that we don't stop in mid-animation.

```
  if (reverse ==      true) {
   this.dir =      newDir;
   this.move();
  } else {
   trace("done");
   this.feetClip.      gotoAndPlay(1);
   delete this.      onEnterFrame;
  }
 }
```

3 **Lines 16-24:** Here's some of the nitty-gritty calculations involved. First, we look at the direction required (the dir variable). We either increment or decrement the current _x value by the current speed variable. Next, we handle the animation of the feet. Basically, we want our character's feet to move at a speed related to the actual movement. However, we can only move frames by integers, so we need to use Math.floor.

```
 if (dir == "left") {
  this._x -= this.      speed;
 } else if (dir ==      "right") {
  this._x += this.      speed;
 }
 this.fr -= .05;
 if (Math.floor(this.fr)      == this.frmem) {
  this.frmem--;
 }
```

4 **Lines 25-30:** If the current frame of the feet MovieClip is 40 (ie. the last frame), we can't go any further, so we must return the playhead to the first frame. Next, we tell the feet clip to go to a frame. We calculate this frame based on the frmem variable. Since we're increasing the size of this number as the character's speed increases, the overall effect is that the feet clip moves more quickly, because it's making greater jumps between frames.

```
 if (this.feetClip._      currentframe == 40) {
  this.feetClip.      gotoAndStop(1);
 }
 this.feetClip.    gotoAndStop(this.
 feetClip._currentframe      +this.frmem);
};
}
```

5 **Lines 31-46:** The move function takes a direction as its parameter (dir), and performs similar instructions to the deceleration code we've already covered. This time, of course, we're accelerating – notice the first If statement inside the onEnterFrame command. It says "if we've not reached our maximum speed, increase the speed by our 'accel' value".

```
public function   move(dir:String):Void {
 this.moving = true;
 this.speed = 0;
 this.fr = 1;
 this.frmem = 1;
 this.feetClip =    eval(this).feet;
 this.onEnterFrame =    function() {
  if (this.speed<this.     maxSpeed) {
   this.speed +=      this.accel;
  }
  if (dir == "left") {
   this._x -= this.      speed;
  } else if (dir ==      "right") {
   this._x += this.      speed;
  }
  this.fr += .05;
```

6 **Lines 47-56:** Our last chunk of code again deals with the feet animation. The Math.floor If statement allows us to increase the speed of the animation more slowly than the actual rate of movement acceleration. How does it do this? Well, we're increasing the fr variable at a rate of 0.05 per frame. All we have to do then is wait until it reaches a whole number, and then increment the actual jump in frames (frmem).

```
  if (Math.floor(this.fr)      == this.frmem) {
   this.frmem++;
  }
  if (this.feetClip._      currentframe == 40) {
   this.feetClip.      gotoAndStop(1);
  }
  this.feetClip.    gotoAndStop(this.
  feetClip._currentframe      +this.frmem);
 };
}
}
```

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On the cover CD

- BrowserBob Pro 3.2, plus all the files you need to complete the tutorial

image: Getty Images

Design your own browser

Want to improve the look of your portfolio on CD by designing and skinning your own browser? We show you how to do just that, with the help of BrowserBob 3

The web may be a great medium for spreading word of your activities, but for those working in the print, illustration, 3D and photography industries, where heavy file sizes are required to do your work justice, the only way to get noticed is to burn your work to CD, and rely on the Royal Mail to get your message across.

But you'll still need to consider a method of displaying the work, and unless you've got some solid multimedia skills behind you the simplest way of doing this is to revert to good old HTML. Creating a simple website is a relatively painless task, and as all your assets are available on CD your audience won't have to endure those painful progress bars as your files are transferred from the server.

"As all your assets are available on CD your audience won't have to endure painful progress bars"

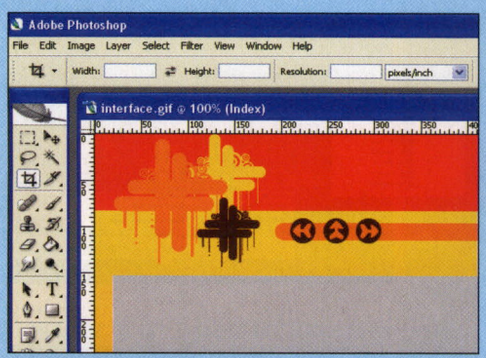
Designing your own site may be impressive, but just think of the impression that you'll create if you provide your own personalised browser as well. Not only will you be able to wow your viewer with your talents, but you'll also remove any of those distracting features such as bookmarks, and even the address bar, so you can be sure that your portfolio will be given the attention it deserves.

As you'll discover over the following pages, completing such a task isn't as difficult as you might imagine, thanks to a piece of software that you'll find tucked away on this issue's cover disc. *BrowserBob* is an easy-to-use app that helps you put together a browser with all the buttons and features you'd expect from a regular browser. And once you've created it, you need never use *Internet Explorer* again.

Before you can start to create your own browser skin using *BrowserBob*, you need to have a layout already created. For the moment, use the interface.gif file on the cover CD. Afterwards, once you understand how the software works, you'll find it easier to design your own skin from scratch.

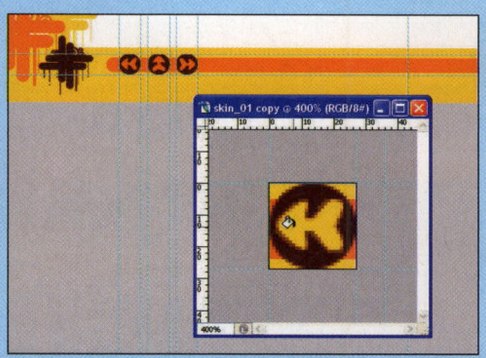
Try to keep your own interface design relatively simple. You may be tempted to go all-out to create a complex layout with lots of detail and texture, but you must remember that the skin should be able to expand; bear in mind the restrictions imposed by puzzling, and you'll realise that only your corner sections remain constant. If there's too much detail and texture in areas that stretch, you'll experience unwanted distortion and pixelation.

CREATE A BROWSER WITH BROWSERBOB



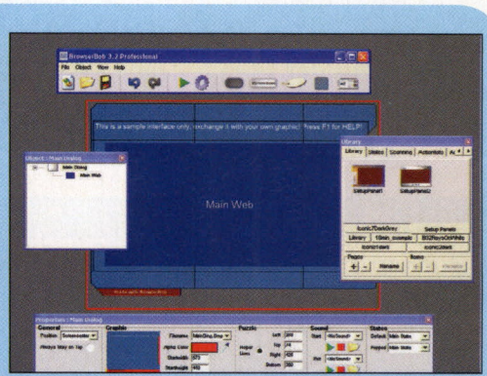
1 Study the layout

The basic layout provided in interface.gif should be pretty self-explanatory. You'll find Back, Forward and Home buttons towards the top-left, plus space for the Address bar. There are also Close and Minimise options towards the top-right, and we'll integrate the Window Resize function into the bottom-right graphic.



2 Crop the buttons

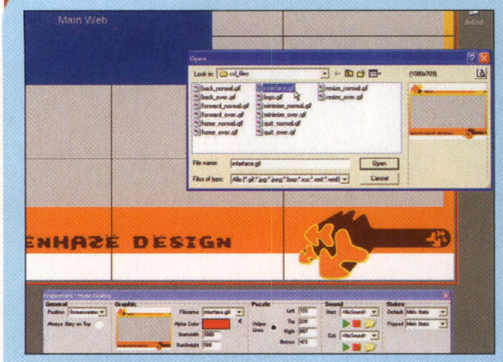
Open interface.gif in *Photoshop*, and create guides around the buttons before cropping. Make sure that you give them obvious names, and save them in the GIF format. To add some usability features to your own browser, you may choose to create overstate buttons, too.



3 Launch BrowserBob

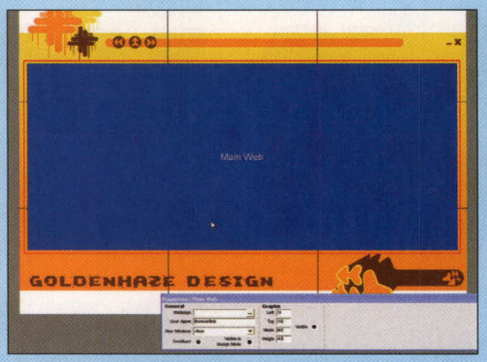
Once you've created the basic assets, you can launch *BrowserBob* itself. The software opens to display a blank browser, accompanied by a series of palettes. The most crucial of these are the Head dialog, which includes the File browser and so on, the Properties dialog, and, of course, the blank browser itself.

LAYOUT AND BUTTONS



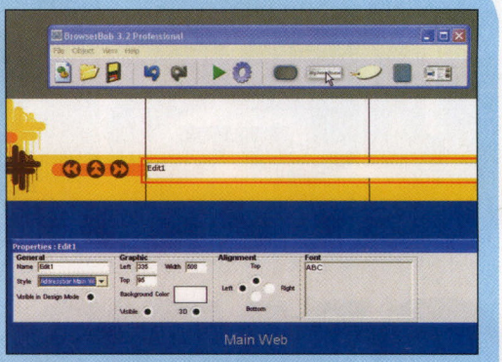
4 Select the skin

Start by selecting the Main Dialog area of the browser – use the Object palette if you're not sure what this is – and click the thumbnail representation of the existing skin to choose the interface.gif image. Click OK and you'll find the new skin in place.



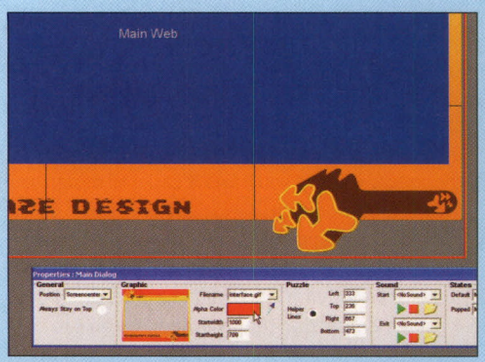
5 Add the display area

The blue Main Web box floating in the centre of the interface will determine the area that displays actual web content. Drag this and resize it using the red active border, so that it covers the grey area in the centre of the interface.



6 Add an address bar

To add an address bar, drag it from the Head dialog, position it, and resize it to fit. Now select it, locate the Properties dialog and set the Style to Addressbar Main Web. At this stage, you might also choose to change the font to something other than the default Comic Sans.



7 Hide areas with transparency

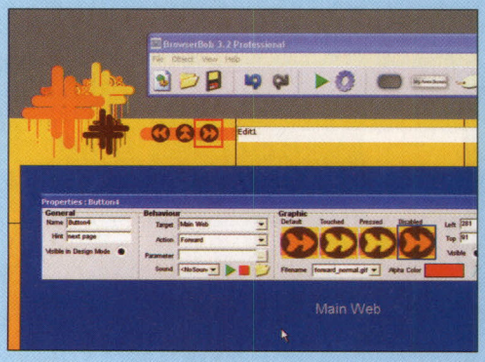
Now click back to the Main Dialog and select the entire skin – you'll see an Alpha Color option in the Properties dialog. Set this to the same red that's contained in the top and bottom of the layout to hide such areas with transparency.

8 Add a Back button

Go back to the Head dialog to add the buttons. Drag a button on to the browser, and look at the Properties dialog to see how the default button is constructed. To make this the Back button, click the existing thumbnail images twice to locate the assets you created earlier.

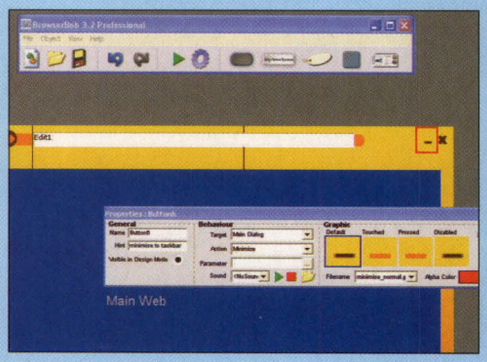
9 Change the target

Change Target to Main Web, so that the button knows what it affects, and then set the action to Back. Adding text to the Hint field at this stage is advisable, as this provides a tool tip bubble when the user's mouse is held over a button.



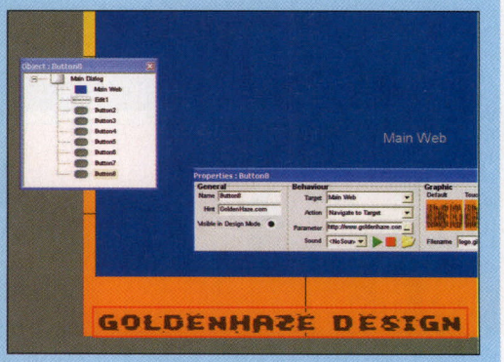
10 Home and Forward buttons

Once the button is complete, position it in place over the background, then repeat the process to create the Home and Forward buttons, choosing the appropriate Action from the available list, and adapting the Hint as necessary.



11 Close and Minimise buttons

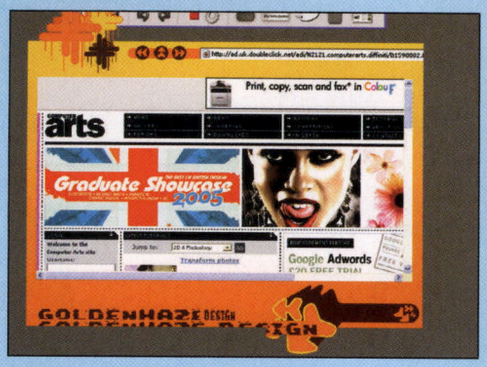
The Close and Minimise buttons operate using the same concept as the buttons you created in previous steps, but you'll need to remember to set the Target to Main Dialog so that it affects the entire application, rather than just the browser content.



12 Add remaining elements

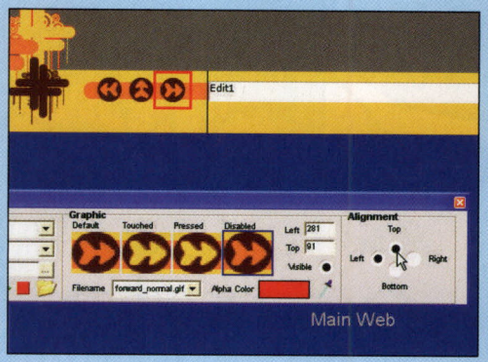
You should now be familiar enough with adding buttons to complete the remaining entries and to create, for example, a link from the site name directly to your site. And don't forget to add a window resize graphic and function towards the bottom-right of the layout.

TESTING AND CONFIGURATION



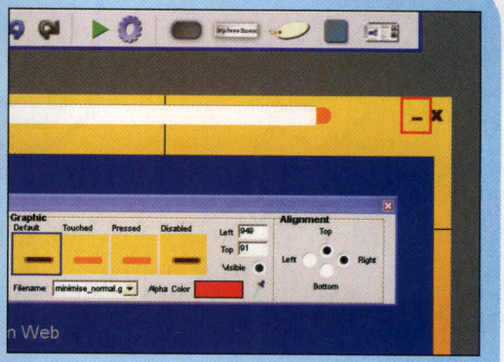
13 Test the browser

With the buttons configured, now's a good time to test the browser. Hit the Green test button in the Head dialog, enter a site address and test the buttons by clicking them. Try out the window resize option and you'll see that there's still some work left to do to counter button shift.



14 Anchor the buttons

As buttons are independent of the background, you'll need to anchor their position. When selected, the buttons for Back, Home, Forward and the Address bar should be positioned in relation to the top left-hand corner using the alignment options available in the Properties dialog.

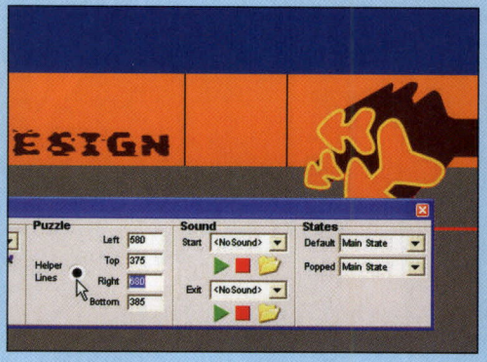


15 Set button alignments

Other buttons should have their alignment set towards their appropriate corners, so that the Quit and Minimise buttons point towards the top-right, the Resize button points towards the bottom-right and the text logo points towards the bottom-left.

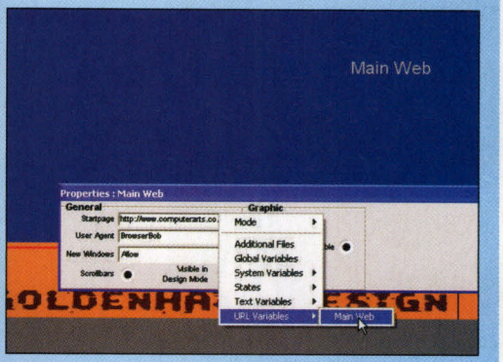
16 Specify puzzling

Now to add some successful puzzling; this will determine which skin elements can be stretched when the interface is resized, and which areas remain constant. Look above your background and you'll notice the layout has been divided into nine squares, using two lines on the x and y axes.



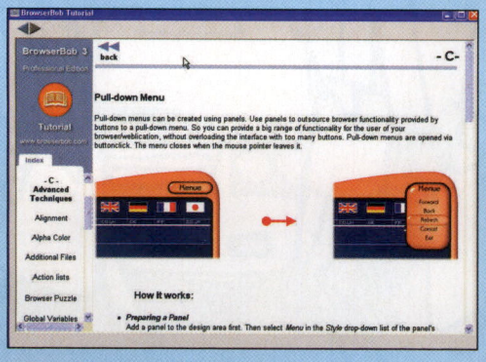
17 Prevent distortion

The four corner squares remain constant while the remaining sections stretch. To ensure there's no distortion of any graphical elements, adjust these so that the vertical lines border the logo and the right-hand graphic and the horizontal lines fall behind the Main Web area.



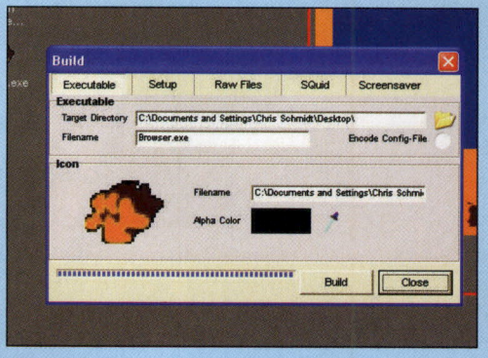
18 Define the Startpage

You can now complete your browser by defining the page that's loaded when the browser starts. To do this, click on the Main Web area, and enter the absolute domain or relative file location in the Startpage field.



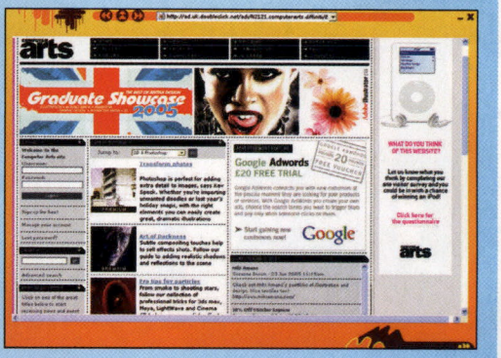
19 Advanced features

Our simple browser is more than enough for a portfolio site, but the software also provides a number of more advanced features that you'll be familiar with from your regular browser. For example, check out the Help files for more detailed information on creating menu bars.



20 Create your browser

Once you're ready to create your browser, you'll need to visit the File > Build option to specify the location and file name. And while you're there, why not polish things off by creating and using your own icon, too?



21 Burn to CD

You can now burn this executable file to CD to contain your HTML-based CD portfolio, so that it automatically opens your website or local home page. And, with no Favourites or ads to distract them, you've pretty much got a captive audience!

On the cover CD

- Ikivo Animator

image: Getty Images

Design for mobiles

The second web revolution is upon us, and you can be a part of it. We investigate the delivery systems and design know-how that you'll need to design content for the mobile internet

There was a time when you could measure internet years like dog years, with a year on the net being equivalent to seven in the real world. Following the dotcom crash, the rate of development slowed, and as the web has matured, recommended protocols have hardened into bona fide standards, Microsoft has emerged triumphant in the browser wars (for now), Google has become the king of the search engine castle, and everyone has an email address. Ultimately, the internet has left the realms of rebellion and experimentation to its offspring, and moved on.

The real edge-of-your-seat stuff is no longer on the desktop web – it's in pockets and handbags, dangling around people's necks and strapped to belts. 2005 will be remembered as the year that the mobile web began its journey from pipe dream to mainstream.

With the emergence of the mobile web, there comes a whole new set of challenges for designers and developers. Just as in the early days of the internet, there are conflicts between standards and platforms, trends to chart and content to create. The main difference is that this time people won't forget that they need to make money too. – and fortunately, the mobile web makes that part much easier.

Back to the future

First, a little bit of physics for you: in the world of the mobile internet there are two co-existing realities. The first is that generated by consumer experience; a bewildering, accelerated place where choice is always multiple, and the mobile phone you've just bought is out of date by the time you get it home. The second is that encountered by analysts and developers, who have been quietly pushing protocols that are only just coming to fruition after half a decade of groundwork. Some of the technologies on the mobile internet have been around for a long time, but it's only relatively recently that they've become viable.

Let's take Scalable Vector Graphics (SVG) as an example of one such technology. As a recommendation, this XML-driven animation and interaction language has been around since the late 1990s. In 2001, a group of mobile phone manufacturers including Nokia, Ericsson and Motorola liaised with the World Wide Web Consortium (W3C), and agreed to adopt the mobile version of SVG – imaginatively named Mobile SVG – as their default vector graphics platform. The first SVG-compatible handsets didn't roll out until the end of 2003, with the release of the Sharp V601SH, and it's only relatively recently that SVG support has begun to appear as standard, with Nokia and Motorola announcing Mobile SVG support in their new handsets at the beginning of 2005. So, although change often appears to be happening fast, much of it is going on behind the scenes, maturing after a gestation period.

Mobile explosion

The current expansion in the mobile market is fuelled by the fact that several such protocols are coming to maturity at around the same time. Combine this with a voracious youth market for all things mobile and bleepy, and the seeds are sown for a brand new internet revolution. The statistics back this up, too.

The mobile phone is gradually becoming the central information medium, squashing a slew of other technologies into its miniature confines. Phones are no longer just phones – they're radios, MP3 players, personal organisers and video clip viewers. Camera phones are among the most popular variant, especially with younger users; around four million people under 24 in the UK currently own one.

"Recent figures suggest that 27 per cent of the UK's population are now mobile web-savvy"

In fact, there are currently more mobile phones in use in Britain than there are people. No, really! In a survey conducted in 2004, management consultancy Analysis Research revealed that there were 1.1 mobile phones for every person in the UK – although only 79 per cent of the population actually use them. Around half of these phones have some kind of browser built into them, which isn't surprising considering that Wireless Access Protocol (WAP) browsers have been built into high-end phones since the end of the Nineties. Uptake was slow at the beginning, with the BBC reporting that only one per cent of the UK population had accessed the net from a mobile device in 2000. More recent figures suggest that 27 per cent of the UK's population are now mobile web-savvy, and the figure may be greater still, as some people may be using applications and services that they don't actually realise are driven by mobile internet technologies.

The real growth area is in mobile services – in games, streaming statistics and media distribution – and Europeans are ahead of the game. Multimedia Message Services (MMS), using protocols originally developed for the web, have seen particular growth. Juniper Research recently reported a doubling in global revenues from sporting bulletins and streamed video highlights to mobiles, with 69 per cent of that total figure generated by European users. Around 380 million mobile users worldwide are expected to

SELLING YOUR WORK

The most direct way to make money from mobile content is to sell it yourself. With Open Source software such as Kannel, a free WAP and SMS server, you can easily serve content from your own website. Find out more by visiting **www.kannel.org**.

The alternative is to approach existing content providers – particularly those who syndicate content, such as **www.mpush.com** and **www.mms3.com**.

THE STRANGE TALE OF YETI SPORTS

Yetisports launched as an online, Flash-based gaming site in January 2004, and now has 250 million users worldwide. Much of its ongoing income is generated through mobile tie-ins – handheld versions of its games, wallpapers and ringtones. We asked Yetisports' founder, Chris Hilgert, to reveal the secrets to his success...

Q How did Yetisports start?

A The game was initially developed for another company, who finally didn't take it because they thought smacking penguins was immoral. We launched ourselves instead, on 19 January 2004. Our servers broke down because so many people tried to get access to the game.

Q What made you decide to port your games to mobile platforms?

A Lots of people asked us to make a mobile version of the games. The online platform required a great deal of work that we weren't earning any money for – but we do from the mobile versions.

Q How many people are involved in creating one of the games?

A I developed all the original online games. All in all, we have six people spinning Yeti ideas and doing mobile games development, technical stuff, marketing, public relations and so on. One game takes two to three weeks to develop.

Q Are there any special considerations that you need to make when designing for mobile?

A The game has to be highly optimised, due to the limited amount of memory on mobile platforms. Images consume a lot of memory, so it makes sense to reduce the number of frames per animation.

Q How important do you think the mobile market will be to the future of the internet?

A Well, very important, of course! Yetisports mobile games are the first games to be sold to over 330 telcos and platforms in more than 60 countries.

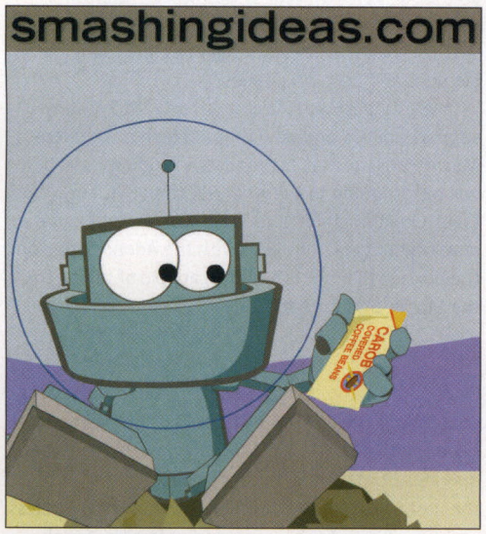
You can play the Yetisports games online at www.yetisports.org – unless, of course, you too feel that smacking penguins is immoral...

Along with Ikivo, BitFlash SVG-T Player leads the market in mobile media players

subscribe to similar 'infotainment' services, including reality TV updates and soap news, in 2005.

The key delivery technologies enabling this growth are banded together under the titles 3G and 2.5G. Simply put, 3G is broadband for your mobile; a method for connecting to data services alongside voice traffic. 3G services are always-on data connections with typical data rates of 384kbits per second – although they're ultimately capable of up to 1,920kbits/s. All the major service providers now offer 3G packages, and suitably high-tech phones to go with them.

The majority of mobile users are still connecting using 2.5G or GPRS services, at the slower typical speed of 56kbits per second – comparable with an analogue modem; still, this is plenty of bandwidth for content such as information services and vector-based applications, as the growth statistics show. And with market growth comes new opportunities to earn money. Research group Jupiter MMXI projects claim that in 2006, European mobile users will spend 3.3 billion euro on content – that's double the amount that Europeans are predicted to spend on traditional web services.



Winning the Best Animation prize in the Flash Lite Content Contest, www.smashingideas.com squeezed two minutes of full animation into the format with their entry, *2001*

Making money with mobiles

So how will those revenues be generated? Curiously, it's a model that's been around since before the web, but which has failed to catch alight online. Mobile content is purchased with micropayments. When you access services by mobile, you download the data and pay for it via your bill, whether it's an MMS message, a video clip or a game. Punters are already used to paying that way; it's how they buy calls and text messages, after all.

There's also a gulf between the stuff people will pay for in the online and mobile markets. Seventy per cent of the desktop spend in 2006 is projected to be on dating and adult content sites; mobile-wise a similar percentage will come from more benign pursuits: games, music and video. The author of the Jupiter MMXI report, Oliver Beauvillain, suggests that companies use their web presence to make money from the mobile market. "Newspapers and magazines struggling to generate direct consumer revenues from their sites have more opportunity to charge for content on mobile phones," says Beauvillain. "They should use their web presence as a way to promote mobile content with which they will be able to generate more revenues."

Big name backers

There are some big names already taking that advice, launching new mobile initiatives backed by their existing presence on the web, and big names don't get any bigger than Google. Its investment in mobile information is vast. As well as developing new mobile services such as the wireless version of online shopping comparison tool Froogle, and a WAP version of its local business listings, it's also snapping up mobile businesses like dodgeball.com, an SMS-based social networking tool.

Realnetworks, the company behind the ubiquitous RealMedia player, recently bought out Finnish mobile games developer Mr Goodliving for $15 million, adding to its growing games portfolio. The acquisition buys them the rights to a veritable library of mobile games, including Trivial Pursuit.

In the wider world of music and media, mobile devices are being recognised as lucrative delivery platforms. Ministry of Sound has been licensing content to mobile portals since 2003, NTL is trialing mobile TV services to new Nokia handsets, and the 3 network scored a major coup when it streamed the Grand National live to its 3G subscribers. This is all very exciting and tantalising, but is it still possible to get in on the ground floor of this new internet boom?

THE SOFTWARE

Name: Ikivo Animator
URL: www.ikivo.com
Price: £248.75
Platform: Windows 2000, XP
What does it do? SVG-Tiny animation tool that integrates with Adobe CS.

Name: Macromedia Flash MX 2004
URL: www.macromedia.com/flash
Price: £448.99
Platform: Windows, Mac OS X
What does it do? Create animations in the mobile Flash Lite format.

Name: InkScape
URL: www.inkscape.org
Price: Free
Platform: Linux, Windows
What does it do? Open-source vector illustration tool with SVG output.

Name: Adobe GoLive CS2
URL: www.adobe.com/golive
Price: £362.99
Platform: Windows, Mac OS X
What does it do? WAP authoring in WML and XHTML-MP, plus SVG-Tiny authoring.

Name: QuickTime Pro 7
URL: www.apple.com/quicktime
Price: £19.99
Platform: Mac OS X, Windows
What does it do? Converts video clips to 3GPP format for mobile platforms.

SVG-TINY VS FLASH LITE

Two competing animation standards have emerged on the mobile platform. The first, SVG-Tiny, is backed by the W3C. A cut-down version of the XML-based Scalable Vector Graphics format – which has so far failed to set the web alight – SVG-Tiny is well supported, with over 40 handsets shipping with built-in players from developers such as Ikivo and BitFlash. Flash Lite 1.1 is Macromedia's version of the Flash Player for mobile phones.

But which will succeed? Right now, it's hard to say. The latest Flash Lite player, deployed in over 40 handsets, also supports SVG-Tiny – taking the format's total reach to over 80 handsets. But Flash Lite is massive in Japan, boasts more powerful interaction, and has widespread recognition. Our advice? Hedge your bets for now – use *Flash* for games, and wait for SVG-Tiny export in the next version of the Flash authoring tool.

SUCCESS STORIES

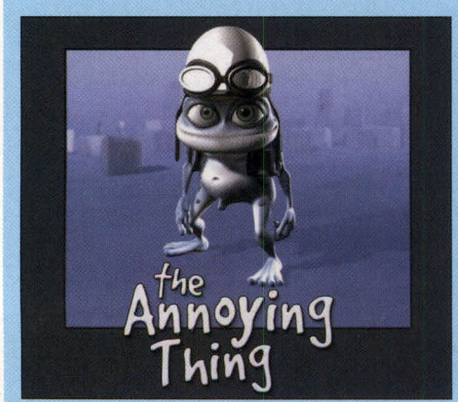
1 Manchester United
www.manutd.com/MUNow
Mobile phones and football supporters go together like pies and chips, which is why Manchester United has had such success with the MUMobile section of its site. You can sign up for ticket alerts, ringtones and wallpapers – all at premium prices.

2 Crazy Frog
www.jamster.com
This year's equivalent to the Hampster Dance shows just how important the mobile market has become to the web. Starting life as a web prank called The Annoying Thing, Crazy Frog has taken off in the mobile market, with real ringtones, animations and even an MP3 single... aargh!

3 Tetris
www.ifone.com
Russian brain-teaser Tetris is still pulling in the punters 20 years after its invention. The tessellating block game recently spent eight months at the top of the mobile game charts, proving that enjoyable pursuits remain popular regardless of the platform.

4 The Shawshank Redemption
www.rokplayer.com
Based on a Stephen King novel, the prison drama starring Tim Robbins flopped at the box office, but became a video rental hit after gaining seven Oscar nominations. Now it's the first movie to be ported to the mobile phone, distributed by Nokia via memory card using ROK Player technology.

5 Hypertag
www.hypertag.com
New Order's comeback album received a boost from mobile marketing, with free ringtones released ahead of the CD launch. The campaign used Hypertag technology, an electronic advertising system that delivers data from adverts and signs to mobile phones.



The understatement of the year – the Crazy Frog in his original web incarnation

The short answer is an emphatic yes. The protocols are settling into place, and the tools are becoming available that will make mobile content development accessible to any developer or designer.

Tools of the trade

You could try the much-maligned *Adobe GoLive* for starters; it's been newly upgraded in *Adobe Creative Suite 2*, and Adobe has quietly been steering this web-authoring tool down the mobile route, with support for the mobile version of XHTML (XHTML-MP) as well as the older Wireless Mark-Up Language (WML). It's bundled with mobile platform emulators – a measure that's becoming increasingly redundant as browser support consolidates. Some more advanced smartphones – the name given to PDA and phone hybrids – are able to render standard web pages using browsers you already know; *Pocket Internet Explorer* and *Opera* are the frontrunners, and you can test *Opera*-optimised mobile pages on your desktop too.

"You don't need many special extras to create Flash content for mobile platforms"

To cater for the majority who are still browsing the mobile internet using microbrowsers built into WAP phones, *Adobe GoLive* will convert existing pages into XHTML-MP or WML for you. Just remember, you'll still need to tweak those layouts to fit the much-reduced screen real estate available. WAP is suitable for information sites, downloads, news and updates, and it's also the prime distribution medium for other forms of content; it's a great way to provide access to media and games that you'd author using other tools.

Compatibility issues

For those wanting to explore this cutting edge – multimedia content and animation – there are issues of compatibility to consider, but as this is an area that's still developing, as ever on the web there's no broad agreement. Curiously, the situation on mobile platforms is virtually the reverse of the web. The predominant mobile technology for running interactive content such as games is a version of Java – J2ME. While Flash has saturated the web, Java's cross-platform, C-like structure has made it an ideal technology for writing games and mini-apps. This has made it hard for lone designers to make inroads into the market, but that's set to change. Its rival, SVG (Scalable Vector Graphics) has made little impact on the web, but the World Wide Web Consortium-endorsed format is well represented on many mobile platforms in the shape of SVG-Tiny. Currently, there are more SVG-Tiny supporting handsets than there are Flash Lite-enabled phones. There are several Mobile SVG players in circulation, including the Flash Lite Player, but the tools for content creation lack the sophistication of *Flash* so far.

Creating the content

Flash is the animation and interaction format that launched a million splash pages. You don't need many special extras to create Flash content for mobile platforms, although you do need to take into account the fact that the Flash Lite Player is a cut-down version of the original web plugin, based on Flash Player 4. You can download a Flash Lite Content Development Kit from **www.macromedia.com/devnet/devices/development_kits.html**; this includes tips, techniques, interface elements, examples and tutorials for developing Flash content for mobile phones, and also includes the new Flash Lite 1.1 publishing profile for authoring Flash content. The kit plugs into *Macromedia Flash MX 2004*, and support for the format is already built in to the software.

The Flash Lite player currently ships with around 40 existing handsets, and Samsung and Nokia recently signed licensing deals to integrate it into all their phones. Users can also download the player and install it on their own handsets, although the process is a bit on the fiddly side. So far there's been widespread adoption in Japan, where it's hugely popular in Japan on the NTTDoCoMo network, but uptake in other markets has been slower. While waiting for Flash Lite support to grow, many developers still turn to *Flash* to create games. Flash content can be ported to the Java 2 Platform – or more accurately, given a Java wrapper – which is more widely supported on 2.5G phones.

Alternatives to Flash

While Macromedia has concentrated on Flash Lite for the deployment of multimedia to mobile devices, Adobe has continued to champion open, W3C-endorsed standards. This is visible throughout *GoLive CS 2* – particularly in its support for SVG-Tiny. *GoLive CS 2* ships with an enhanced SVGT Editor for coding animation and interactivity.

Recently, Swedish company Ikivo launched a new tool, *Ikivo Animator*, which creates SVG content for mobile platforms – you'll find a trial version on the CD. Integrating easily with *GoLive* and *Illustrator*, *Ikivo Animator* takes vector objects and enables you to add animation and interactivity to them on a timeline, much like *Macromedia Flash*. The compatible Ikivo SVG-Tiny player is already integrated into many Siemens and Ericsson phones.

Interestingly, Flash Player 1.1 ships with SVG-Tiny support built-in, and now that Adobe has acquired Macromedia and all its products, including *Flash*, it will be intriguing to see what direction SVG-Tiny takes. One thing's for sure: Flash won't disappear as a development environment. With the Adobe badge on the box, we may see it become capable of saving to the Mobile SVG format.

Spread the word

Once you've done the hard work, it's time to get your content out there. If you take the DIY approach, you'll need to run an SMS and WAP gateway. This software operates from your server, and you can find a list of the best SMS and WAP solutions at **www.palowireless.com/wap/servertools.asp**. Kannel, a free Linux-only WAP and SMS gateway tool available from **www.kannel.org**, comes highly recommended; however,

START CREATING MOBILE CONTENT

1 If you own *Macromedia Flash MX 2004*, you can already create animation for a growing number of mobile platforms. Flash Lite export is built into the package. Your first step should be to make sure you're running the latest version of the software.

2 Go to Help > About Flash. If you're running any version other than 7.2, you'll need to download an update from **www.macromedia.com/software/flash/special/7_2updater/**. While you're at it, grab the Flash Lite CDK (Content Development Kit) from **www.macromedia.com/cfusion/entitlement/index.cfm?e=flashcdk**.

3 Just about any animation can be repurposed for *Flash*, or you can develop new content from scratch. The program is bundled with a batch of templates to get you started. Check out File > New > Templates.

4 Once you've opened your chosen template, you can safely delete the top layer. Any content that you add should be placed on the Content layer, or on layers that are below the Device layer. Alternatively, you could design at a generic size of around 120x120 pixels.

5 Optimisation is key when designing for mobile platforms. Jettison all unnecessary elements, optimise vector images by reducing the number of curves, and forget about gradient fills. Convert all elements into symbols, too.

6 Once you're ready to publish, go to File > Publish Settings and choose Flash Lite from the drop-down menu that appears. Choosing version 1.0 will give you less interactive capability, but will ensure the widest compatibility.

take note that you'll need to have full administrator access to your server in order to install it.

Gateway servers offer several methods of delivering content. The easiest is to embed hyperlinks to the content you've produced in your WAP site, just like a regular site. If you want to make money from content, reverse SMS has become a popular payment method; this enables you to direct punters to secret WAP download links for content, while taking payment from a premium SMS message. A related method, supported by Kannel, is called WAP Push. This method sends a link via an SMS message that automatically launches when the message is opened.

These SMS and WAP Push-based methods are complicated to implement, so it's fortunate that there are other solutions. Take **www.mpush.com** for example. It provides an introduction to mobile content delivery, enabling you to upload your own animations, wallpapers and games while taking care of delivery and billing. The company that operates the site, txtNation, then skims off a percentage of your profit as a subscription. Currently, though, the majority of existing solutions, like **www.mms3.com**, offer a range of existing content, rather than allowing you to peddle your own. Ideal if you're more suited to being a suit.

Design matters

As you can see, there are plenty of routes into the mobile content market. Not all of them are difficult, but some, such as games development and information site creation, require additional expertise; we certainly wouldn't advise you to jump head-first into games creation without acquiring some serious programming know-how.

The design problems are, in some ways, a little more mundane. You'll be creating content that you hope will display gracefully on multiple handsets, and at unpredictable resolutions. While 240x320 pixels seems to be default at the higher end of the market, screen real estate can be much smaller. This means making a decision early on whether you want to target high-end phones, stick with the mid-range median of 180x220, or aim for a more generic 120x120.

Learning curve

Naturally, mobile phones are far less powerful than computers. "You need to consider that performance on old devices may be bad, but those devices still need to be supported," says Chris Hilgert, the brains behind online and mobile gaming operation Yetisports. "Games have to be highly optimised." Such advice applies to bitmap and vector based animation, too.

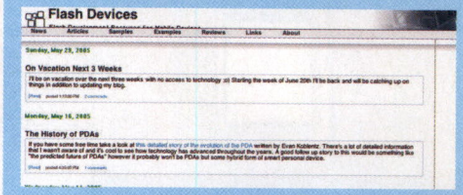
> **"The mobile market is now ripe for computer-literate designers to get in at ground level"**

As with any 'new' development medium, there's a learning curve to climb, as Kris Honeycutt of cutting-edge mobile and web design company Solid Thinking admits. "I recently worked on a little Flash Lite (1.0) project, a small animation created from an imported sequence of alpha transparent PNG files," he explains. "But the transparency in the animation wouldn't work on the mobile platform I was porting it to." Honeycutt discovered that the solution was to export the files from *Macromedia Fireworks* at 32bits, instead of from *Photoshop* at 24. It's trial and error situations such as this that underline the youth of the medium.

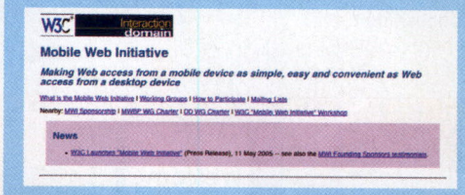
Macromedia or Adobe, DIY or outsourced content: whichever way we go we can look forward to an online renaissance period that's powered by mobile platforms. Internet time is about to start moving much, much faster again, and the mobile market is ripe for computer-literate designers to get in at ground level. With so much happening so quickly, demonstrating that you can create content for these platforms is a must. It's like the birth of the web all over again, except this time there's money to be made.

TOP RESOURCES

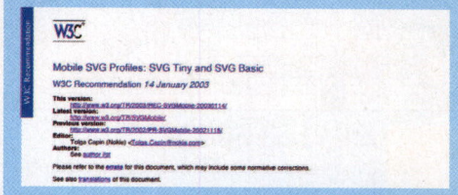
1 Flash Devices
www.flashdevices.net
News, articles and tutorials about Flash Lite and other mobile flash formats.



2 Mobile Web Initiative
www.w3.org/2005/MWI
The World Wide Web Consortium recently launched an initiative to standardise protocols across mobile platforms.

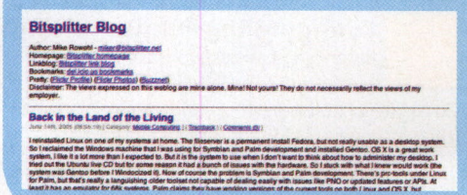

W3C
Mobile Web Initiative
Making Web access from a mobile device as simple, easy and convenient as Web access from a desktop device
News

3 Mobile SVG
www.w3.org/TR/SVGMobile
More from the W3C – its recommendation outlining the structure of scalable vector graphics for mobile devices.

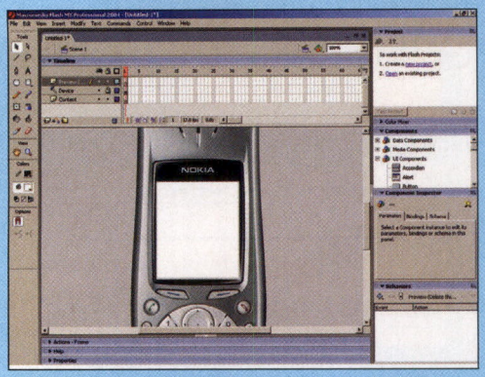


4 Paul Golding
www.paulgolding.me.uk
Stuck for ideas? Turn to the site of self-styled mobilist Paul Golding's site – it's packed with inspiration for the mobile future.

5 BitSplitter
www.bitsplitter.net/blog
Mike Rowell's BitSplitter blog charts emerging mobile technology trends and news. Check the links, too.

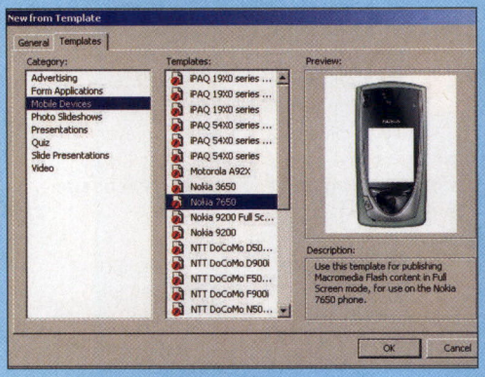


CREATE AND EXPORT CONTENT IN MACROMEDIA FLASH MX 2004



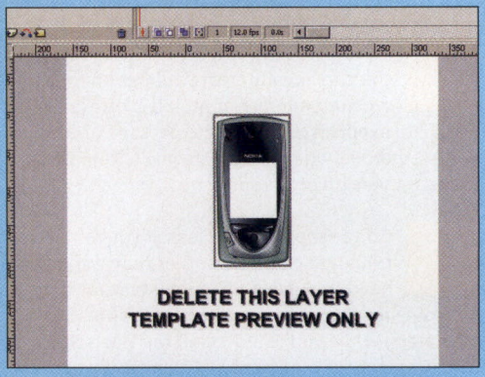
1 Mobile-ready

You may not realise it, but the latest version of *Macromedia Flash* can already create content for mobile platforms, while existing movies can easily be repurposed using built-in publishing tools.



2 Select a template

We'll explore this support now – start by going to File > New and click the Templates tab. In the Category list, select Mobile devices to target your content at a specific phone.

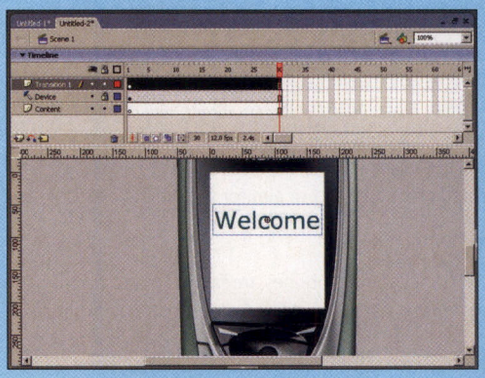


3 Set up the page

You can set up your page for a generic screen size of around 200x200 pixels, instead of for a specific phone. The vector graphics will resize to fill the available screen dimensions.

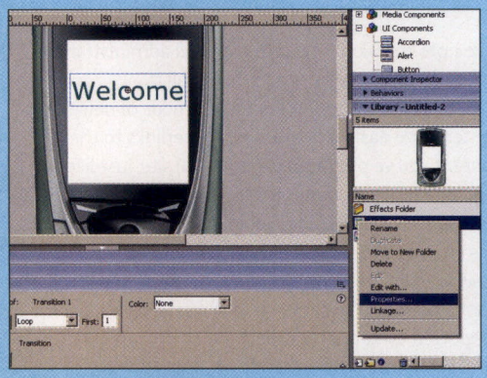
4 Alias text option

Experts advise using the Alias text option for small font faces on mobile devices. You'll find the option in the Property Inspector – it's only available for static text on mobile devices.



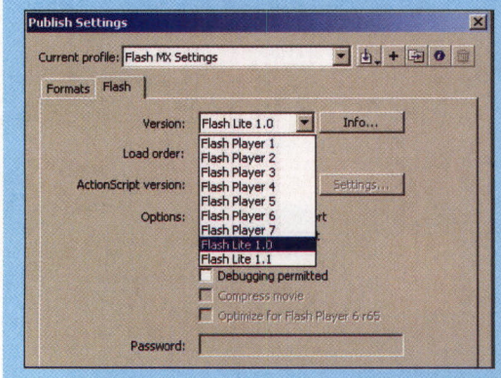
5 Alias text explained

The Alias text option makes small text legible by aligning text outlines along pixel boundaries. This makes the text appear crisper, even when you've enabled antialiasing.



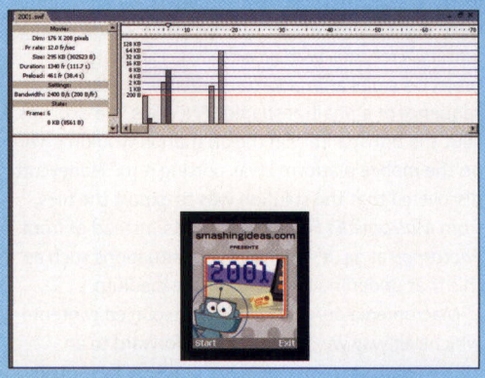
6 Keep it small

You need to take more care in optimising content within a movie when it's destined for mobiles. Phones are far less powerful devices than desktop computers, so small files are key.



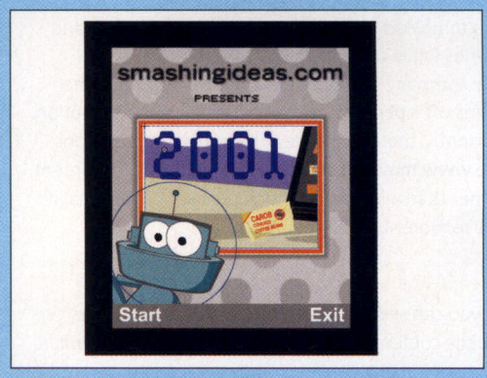
7 Configure the Publish settings

Before you can test your content, you need to configure the Publish Settings correctly. Go to File > Publish Settings and choose Flash Lite 1.1 (the cut-down version for mobile platforms).



8 Test your movie

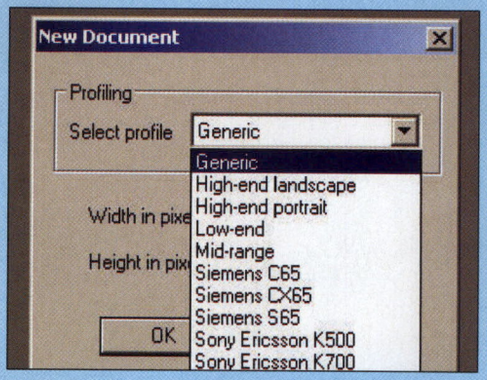
Select Flash Lite 1.1 from the menu, then return to the document. Go to Control > Test Movie. Select Disable Keyboard Shortcuts to emulate a phone keypad on your keyboard.



9 Test on an external player

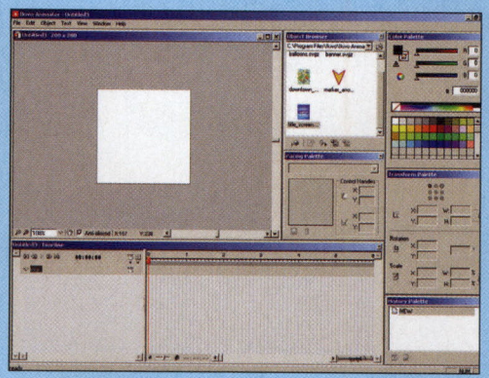
You can test Flash Lite content on an external player too. You'll find it in C:\Program Files\Macromedia\Flash MX 2004\Players\Release\FlashLite1.1 on a default installation of Flash MX 2004, version 7.2.

CREATE A SIMPLE ANIMATION USING IKIVO ANIMATOR



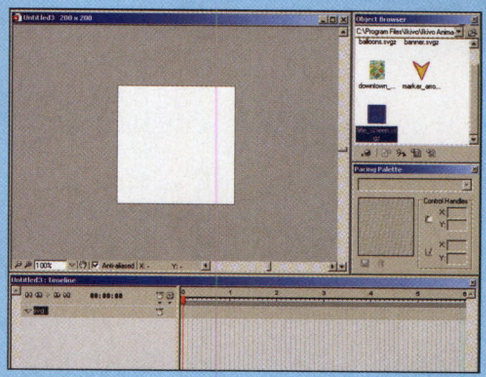
1 Create a new file

Open *Ikivo Animator* and go to File > New. From the dialog that opens you can choose to create a generic site at 200x200 pixels, or pick a mobile phone template from the drop-down menu.



2 Import artwork

The workspace is similar to that of older versions of *Flash*, except there aren't any drawing tools on display. Artwork will need to be created in another package, such as *Illustrator*, and imported as objects.

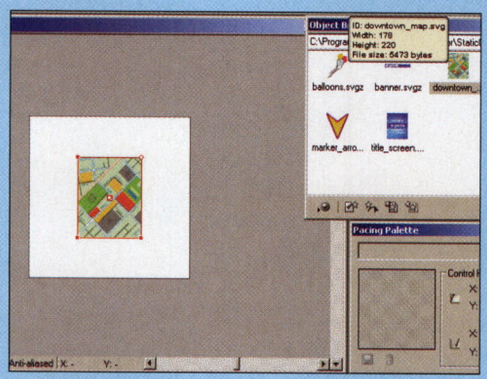


3 Key interfaces

The important areas are the Stage Window, where your document will take shape, the Timeline Window, where frames of animation are added, and the Object Browser, containing SVG content.

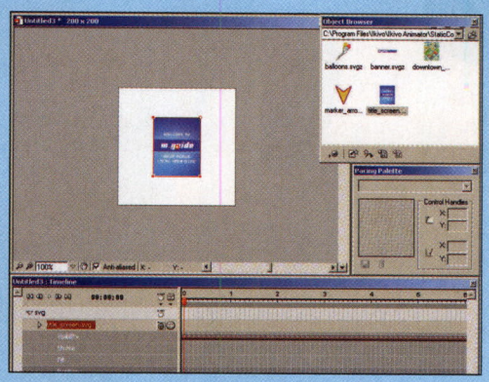
4 Launch Object Browser

The Object Browser points to a folder called City Map when first launched. This can be changed to point to any folder on your hard drive containing static SVG objects.



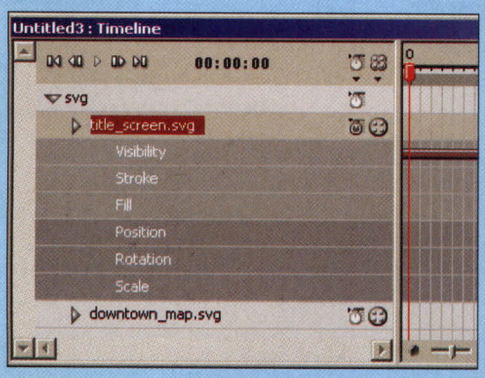
5 Insert the map

In the Object Browser, select the item downtown_map.svgz. Either drag it to the stage or click the Insert Object icon. Resize the map by dragging out a corner handle while holding down Shift.



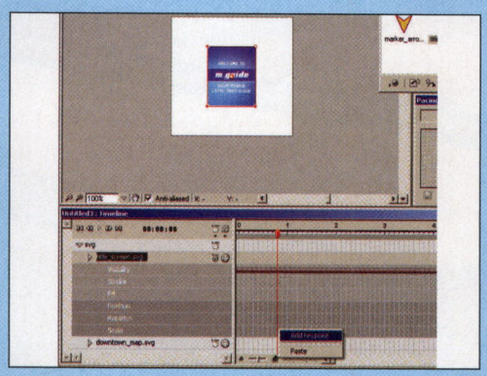
6 Insert the title screen

Select and insert the title_screen.svgz object into the document. To reveal the object's animation options in the Timeline, click the Show Animation button next to its label; it looks like a little clock.



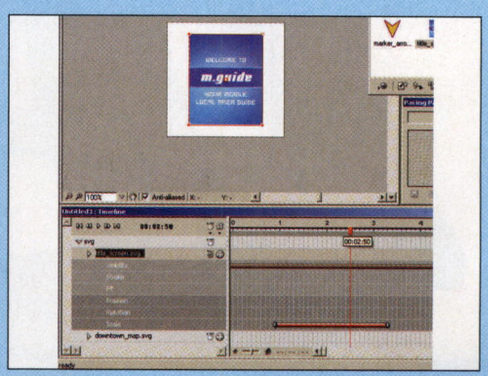
7 The Timeline

A series of new layers appear, with labels like Visibility, Stroke, Fill and so on. You'll notice that the title's visibility is continuous, while there's a change in the position of the object at frame one.



8 Add a keypoint

To change the animation, right-click in a corresponding frame and choose Add Keypoint. For example, to change the scale of the object, add the keypoint Scale layer and edit the size of the object.



9 Create the animation

Add a second keypoint further along the timeline and resize the object again. The two keypoints join, automatically creating a tweening animation between the two points, rather like *Flash*.

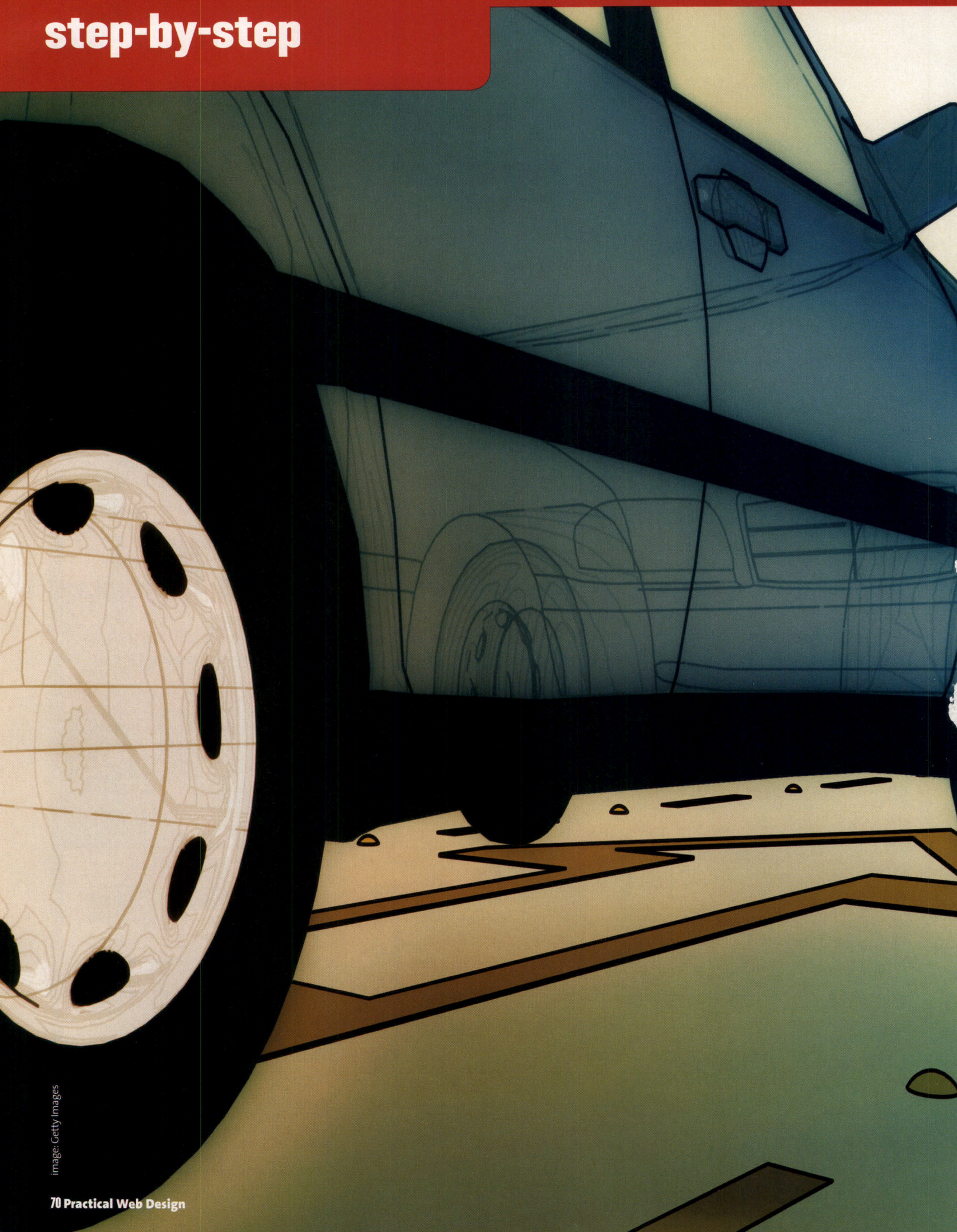


image: Getty Images

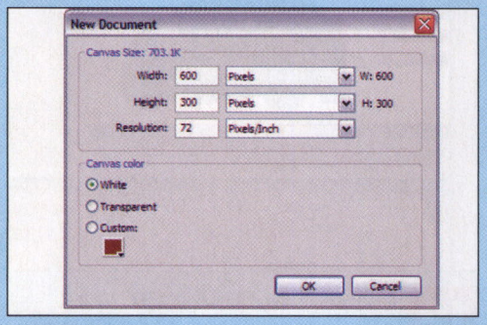
Create real-time effects in Flash

Provide your customers with the ultimate online shopping experience by creating images they can tweak themselves

Over the last couple of years, an increasingly popular use of Flash has been to provide users with the ability to customise products they're viewing. Whether it's trainers, cars or kettles, you often see sites where the customer can see their exact choice simply by pressing a button. This is clearly very useful, and it's not difficult to implement – all it requires is some forethought about how to organise your Flash file, and a little bit of analytical thinking in order to establish how your code is going to work.

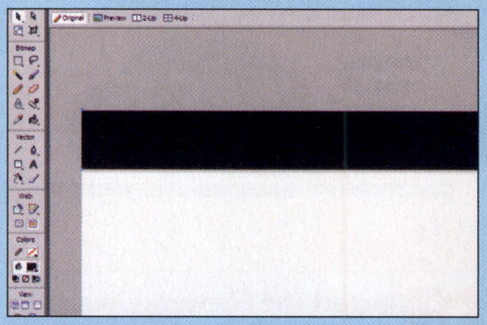
We're going to demonstrate an application that applies real-time effects to a MovieClip – a picture of a car. In addition to colour-tweaking functionality, we'll create blurs and drop shadows. We'll develop all this in ActionScript 2.0, which has support for Object Oriented Programming and strict data typing. Rather than applying effects to a single MovieClip, it can be more effective to target specific parts. For example, by separating a car image into the body and the wheels, you can create the effect of applying colour to the paintwork. Many graphics programs provide a variety of effects, a lot of which are remarkably simple; try implementing effects such as bevels, glows and inner shadows in *Flash* – it's easier than you think.

DESIGN YOUR INTERFACE AND SET UP THE MOVIE



1 Create a Fireworks document

First, we need to open *Fireworks MX 2004* and create a new document. Our layout's dimensions are going to be 600x300 pixels. If the eventual movie is going to fit on the user's screen (even at 800x600 resolution), then 750x400 pixels is our approximate limit, allowing for scrollbars and window bevels.

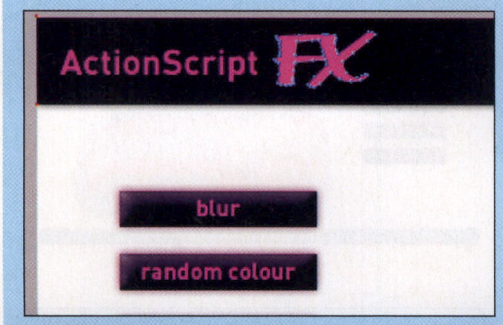


2 Draw bars

Using the Rectangle tool, create two bars that sit at the top and bottom of the document. Use the Align panel (Window > Align) to make sure that the bars are placed properly. Select both rectangles, and add a subtle drop shadow in the Effects section of the Properties panel (Window > Properties).

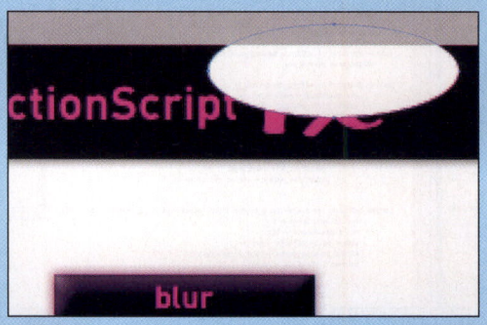
3 Create buttons

Keeping the rectangle tool, draw three more shapes that will serve as our buttons, again adding a drop shadow. Still in the Properties panel, add a smooth inner bevel, as above. Then choose the Text tool, and type out the above button labels. Use the Align panel to centre them, ensuring that their paragraph alignment is also centred.



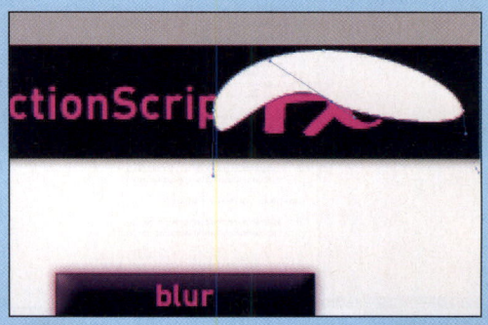
4 Create title graphic

Next we need to create a suitable title graphic. Choose a font – we've picked a fairly sober one, with a more jazzy one for the FX part. Select the FX letters and choose Text > Convert To Paths. This will break the text into separate vector shapes, much as you can do in *Flash*.



5 Combine vector paths

Ungroup the broken-apart text (Modify > Ungroup) and choose Modify > Combine Paths > Union. This will convert the separate vector shapes into one unified path. Copy and paste this shape back into the document, and then move it to one side. Now choose the Sphere tool, and draw a simple oval shape.



6 Create a wave contour

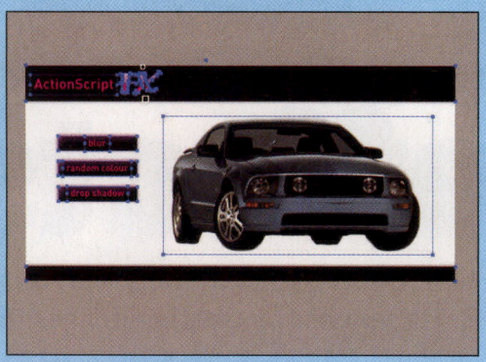
Create the glossy overlay by using the Subselection tool to click the oval's anchor points and warp the shape to produce a wave contour, as above. Place this shape over the copied text path, and choose Modify > Combine Paths > Punch; this will punch through the underlying paths, giving us a cropped piece of the FX shape.

7 Fill with a gradient

To complete the glossy look, fill the shape with a gradient. In the Properties panel, edit the gradient by clicking it. Make sure one side is fully transparent, then use the Selection tool to make it vertical rather than horizontal. Now place it over the original text, and decrease it in size by around ten per cent.

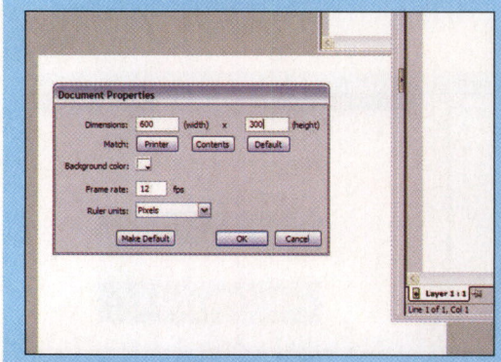
8 Cut out the image

We're going to use a photo of a car for our example, but you can use any image you like. However, we're going to have to cut it out of its background, because otherwise *Flash* will apply our ActionScript effects to the perimeter of the image. To cut it out, select the Eraser tool, and work your way around the image.



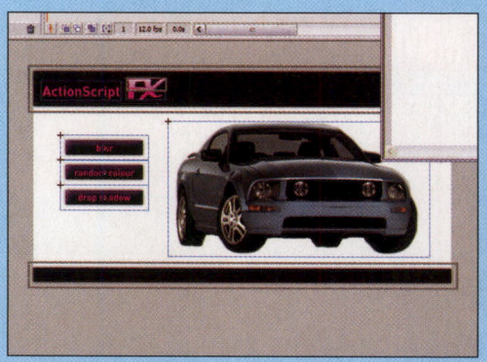
9 Open Flash

Once you're done, save your document as layout.png. (File > Save as). *Fireworks'* PNG format is incredibly flexible – it retains full editability, including all effects, as well as being reasonably small in file size. We've finished laying out our interface, so now open *Flash MX 2004* so we can set up the movie.



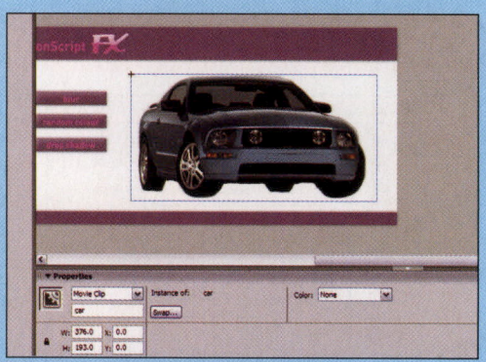
10 Create a new document

Once in *Flash*, create a new document. This needs to have the same dimensions as your *Fireworks* file (600x300 pixels). The frame rate for the movie is irrelevant because there's no animation, so you can leave it at 12fps. We're working in ActionScript 2.0, which is the default, so there's no need to adjust the settings.



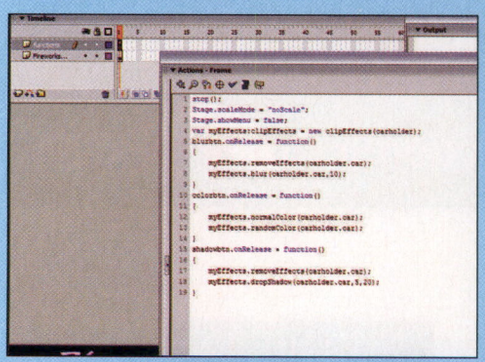
11 Import the Fireworks image

Create a new layer, and choose File > Import to Stage. Browse to your *Fireworks* PNG file. Choose Import into new layer, and rasterise the shape and text if necessary. When the elements have been imported, convert the buttons to MovieClip symbols with the names blurbtn, colorbtn and randombtn.



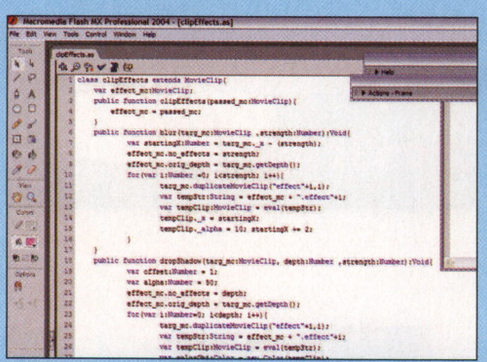
12 Convert to MovieClip

Convert the car image to a MovieClip with the instance name car. Now choose to convert it to another MovieClip (Modify > Convert To Symbol); this will nest the car clip inside another MovieClip. On the main timeline give this parent clip the instance name carholder.



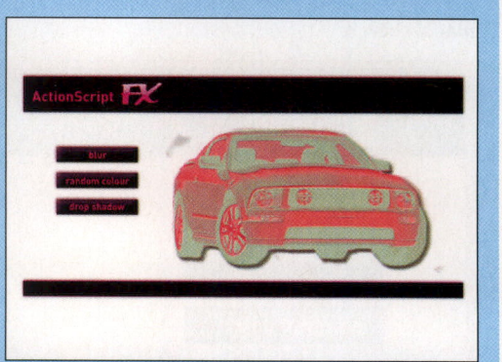
13 Type in the code

Rename the first layer in the document and call it actions, and type in the timeline-based ActionScript code that we cover on page 73. This code deals directly with the interface itself, whereas the rest of the movie's code is going to be a new class, and will reside separately.



14 Open the ActionScript file

Choose File > New > ActionScript file. All ActionScript 2.0 classes must exist in separate .as files. By default, they must also reside in the same folder as the .fla file, although this can be changed in the movie's publish settings. For now, type the class code from page 74 into this file, and save it as clipEffects.as.



15 Preview in Flash

That's all there is to it. Once you've typed in your code, save your file and choose File > Publish Preview > Flash to view the resulting movie in the authoring environment player. If all has gone to plan, you should be able to add the effects we scripted by clicking the buttons.

ADD ACTIONS TO THE BUTTON IN THE MOVIE

Object Oriented Languages such as ActionScript 2.0 require you to declare an instance of the required class. For those of you who are new to OOP, this is very much like creating an instance of a *Flash* library symbol such as a MovieClip – you can then create as many instances of the symbol (or class) as you like and they'll all behave according to the original. In our example code we've created a clipEffects class and to use it we must declare an instance of it. The only confusing aspect of all this is that *Flash* also enables you to use predefined class methods without instantiating them – Math.round(), for example.

You'll also notice that ActionScript 2.0 is a strictly-typed language – if you want it to be. This means that you have the option to force variables to represent a certain data type (a string, for example) and *Flash* fires an error if that variable is assigned a value which does not correspond to its type.

1 **Lines 1-3:** First, we need to set a couple of stage properties. Setting Stage.scaleMode to noScale means that the movie's contents don't stretch to fill the player. Stage.showMenu refers to the right click menu, which by default allows the user to play and rewind the movie. Tweaking these properties isn't crucial for this particular movie, but it's a good habit to get into, especially if you're dealing with apps that occupy the whole screen.

```
stop();
Stage.scaleMode = "noScale";
Stage.showMenu = false;
```

2 **Line 4:** As mentioned earlier, to make use of a class you must declare an instance of it. If we look at the syntax step by step, the first keyword is var. This ensures that the reference's scope (where it is accessible from) is in the current timeline only. Using var is especially important in functions where you might declare a commonly used variable such as speed – you don't want conflicts with identically named variables in other functions. Next, we create our instance myEffects, and specify its type as being clipEffects. Finally, we ask for a new clipEffects object, and pass it the instance name of the carholder MovieClip.

```
var myEffects:clipEffects = newclipEffects(carholder);
```

3 **Lines 5-20:** The use of actual Button symbols is pretty much redundant in *Flash* these days – as we can see here, all we need to do is assign onRelease actions to the button MovieClips we have created on the stage. This is a flexible approach as a MovieClip's potential functionality outweighs that of the humble Button. If we look at the various onRelease statements, they are all calling methods in the myEffects instance of clipEffects that we created beforehand.

```
blurbtn.onRelease = function()
{
 myEffects.removeEffects (carholder.car);
 myEffects.blur(carholder. car,10);
}
colorbtn.onRelease = function()
{
 myEffects.removeEffects (carholder.car);
 myEffects.normalColor (carholder.car);
 myEffects.randomColor (carholder.car);
}
shadowbtn.onRelease = function()
{
 myEffects.removeEffects (carholder.car);
 myEffects.dropShadow (carholder.car,5,20);
}
```

4 **Lines 21-25:** That's all the code required for the actual .fla file. Now we need to turn our attention to the clipEffects class itself, which resides in the external .as file we created. Notice how clipEffects extends MovieClip; this means that clipEffects inherits all of MovieClip's properties and methods. The first thing we do is create a blank MovieClip reference called effect_mc. Next comes our constructor function. A constructor is a function which is executed whenever a new instance of the class is created. As you can see, it accepts a MovieClip reference as a parameter and assigns it to the effect_mc variable.

```
class clipEffects extends MovieClip{
 var effect_mc:MovieClip;
 public function clipEffects (passed_mc:MovieClip){
  effect_mc = passed_mc;
 }
```

5 **Lines 26-37:** Now for the nitty-gritty of the class, and its first effects function – blur. This function takes two parameters – the target MovieClip which we're using to apply the effect, and the strength of blurring. The function works by duplicating the underlying clip a number of times (the strength), and then arranging these clips at staggered _x and _y values, and at 50 percent _alpha. This gives the effect of bringing the MovieClip out of focus.

```
 public function blur (targ_mc:MovieClip ,strength:
Number):Void{
  var startingX:Number = targ_mc. _x - (strength);
  effect_mc.no_effects = strength;
  effect_mc.orig_depth = targ_mc.getDepth();
  for(var i:Number =0; i<strength; i++){
   targ_mc.duplicateMovie Clip("effect"+i,i);
   var tempStr:String = effect_mc + ".effect"+i;
   var tempClip:MovieClip = eval(tempStr);
   tempClip._x = startingX;
   tempClip._alpha = 10; startingX += 2;
  }
 }
```

6 **Lines 38-54:** The dropShadow function works in a similar fashion to blur. It duplicates the target MovieClip, but this time it places the clips underneath and applies a black colour transform to them. It then offsets their position in staggered values, which creates the kind of drop shadow effect often seen in apps such as *Photoshop*. The parameters it accepts are depth, which describes how many shadows are created, and strength, which determines the _alpha values of the shadows.

```
 public function dropShadow (targ_mc:MovieClip,
depth: Number, strength:Number): Void{
  var offset:Number = 1;
  var alpha:Number = 50;
  effect_mc.no_effects = depth;
  effect_mc.orig_depth = targ_mc.getDepth();
  for(var i:Number=0; i<depth; i++){
   targ_mc.duplicateMovie Clip("effect"+i,i);
   var tempStr:String = effect_mc + ".effect"+i;
   var tempClip:MovieClip = eval(tempStr);
   var colorObj:Color = new Color(tempClip);
   colorObj.setRGB(0x000000);
   tempClip._x = offset; tempClip._y = offset;
   tempClip._alpha = strength - i;
   offset += 1;
  }
  targ_mc.swapDepths (effect_
mc.getNextHighest Depth());
 }
```

ENTER THE CLIPEFFECTS CODE

ActionScript features plenty of scope for controlling the colour of objects on the stage. The only problem is that there are so many parameters to change that the code involved can often look somewhat laborious. There's no need to panic though – the Color.setTransform method directly mimics the colour options in the *Flash* properties panel, so you get the option to control the percentages and offsets for each of the colour components (red, green, blue and alpha). In our randomColor function, we'll pair this functionality with random values.

One of the other things we need to tackle in this code is how to remove the effects we've applied. For the non-colour related effects, this involves carefully removing the duplicated MovieClips we've created. For the colour effect, we simply need to remove the colour transformation by creating a Color transform with the default values.

1 **Lines 1-3:** Notice the Public prefix we're using. This denotes a method or variable as being publicly accessible, by which we mean that it is available outside the class itself. The opposing counterpart of Public is Private, which does the opposite. This is extremely useful because it allows you to control how your classes are used. For example, in our movie we wish to use the randomColor function when we declare an instance of the class. Hence we give it a Public keyword. However, randomBetween (read further for an explanation) is only required inside the class, so we make it private. This prevents it and its properties being modified externally. Focusing back on the randomColor function, notice how it simply sets up a new Color object.

```
public function randomColor(targ_mc:MovieClip):
Void{
  var colorObj:Color =    new Color(targ_mc);
  var myColorTransform:   Object = new Object()
```

2 **Lines 4-13:** As we mentioned earlier, the Color object gives you precise control over a MovieClip's colour values. Since this is a random colour effect, we use our randomBetween function to produce a random set of values for each colour component. As you can see, the percentage values lie between -100 and 100, and the offset values between -255 and 255.

```
  myColorTransform.ra =    randomBetween
(-100,100);
  myColorTransform.rb =    randomBetween
(-255,255);
  myColorTransform.ga =    randomBetween
(-100,100);
  myColorTransform.gb =    randomBetween
(-255,255);
  myColorTransform.ba =    randomBetween
(-100,100);
  myColorTransform.bb =    randomBetween
(-255,255);
  myColorTransform.aa =    randomBetween
(-100,100);
  myColorTransform.ab =    randomBetween
(-255,255);
  colorObj.setTransform    (myColorTransform);
}
```

3 **Lines 14-26:** This normalColor function can be used to return the MovieClip to its original settings. It does this simply by resetting the component values back to the defaults (ie. percentages of 100 and offsets of 0). Notice the Void keyword after the parameter. This keyword means that the function doesn't actually return a value. If you don't use it when your function doesn't return anything, the *Flash* AS2 compiler will throw up an error.

```
public function normalColor  (targ_mc:MovieClip):
Void{
  var colorObj:Color =    new Color(targ_mc);
  var myColorTransform:   Object = new Object()
  myColorTransform.ra     = 100;
  myColorTransform.rb = 0;
  myColorTransform.ga     = 100;
  myColorTransform.gb = 0;
  myColorTransform.ba     = 100;
  myColorTransform.bb = 0;
  myColorTransform.aa     = 100;
  myColorTransform.ab = 0;
  colorObj.setTransform    (myColorTransform);
}
```

4 **Lines 27-29:** The randomBetween function we make use of in randomColor is an effective extension of Math.random. It takes two parameters: the lower and upper boundaries, and returns a random number between them. Notice how we specify it as being a Private function, and we set its return type as Number. This means that if you pass it anything other than a number, or attempt to plug its return value into anything other than a number, you will receive an error. Its private status ensures it cannot be used outside the class.

```
private function  randomBetween(lower:
Number,upper:Number)  :Number{
  return (lower + Math.   floor(Math.random()*
  (upper-lower+1)));
}
```

5 **Lines 30-38:** Finally, we tackle a function to remove the effects we have created. Our dropShadow and blur functions work by creating a number of duplicated MovieClips, and they store this number in a class variable like no_effects. This ensures that we can successfully loop over all of these MovieClips and kill them using removeMovieClip. As a final touch, we also return the original MovieClip to its starting depth (which we stored in another class variable called orig_depth).

```
public function  removeEffects(targ_mc:
MovieClip):Void{
  for(var i:Number=0;    i<effect_mc.no_effects;
  i++){
    var tempStr:String =      effect_mc + ".effect"+i;
    var tempClip:MovieClip      = eval(tempStr);
    removeMovieClip     (tempClip);
  }
  targ_mc.swapDepths    (effect_mc.orig_depth);
}
}
```

Here's the final design; if all has gone to plan you'll be able to change the look of the car by clicking the buttons

All your Apple needs

All your Apple needs
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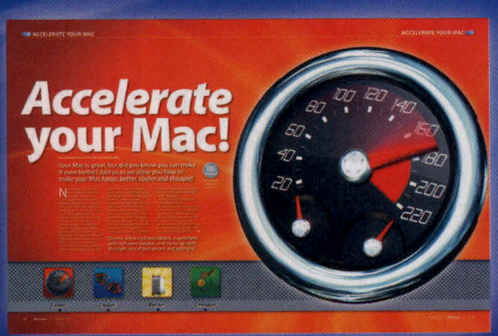

Mac hints and tips

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All the latest Apple kit and more!

image: Getty Images

Pick the perfect platform

When you choose a host, you'll also need to pick a platform – but should you run a Windows web server or leverage Linux? We ask the experts...

Money matters, but when it comes to web hosting cheap isn't always cheerful. When considering your hosting options, you need to bear in mind a range of variables: whether a host is able to guarantee sufficient uptime and bandwidth to cope with the demands of your site, what support arrangements are in place, how much control over your server you can have, and crucially, whether your server will run Windows or Linux.

Popular wisdom states that Linux is rock solid but rather geeky, while Windows is easy to use but with more holes than a pound of Swiss cheese. However, when you speak to hosting experts a very different picture emerges. Over the next few pages we'll discover the things you need to think about, and pick the brains of some of the UK's biggest hosting firms. We'll determine the correct way to choose the right platform for your needs, based on your site requirements, skills, budget and the big-picture issues such as e-commerce, security, technical support availability and the total cost of ownership.

Is Linux better than Windows? "Is cheese better than ham?" asks Ed Johnson of Fasthosts (**www.fasthosts.co.uk**). As he points out, the appropriateness of a particular platform depends, predominantly, on what you want to achieve – and what sort of knowledge you have. As Rob Lovell, director of Hostway (**www.hostway.co.uk**) explains: "Windows has long prided itself on being the more user-friendly of the two operating systems, although it is fair to say that Linux has made great strides in attracting users ... and both operating systems now offer much higher levels of security and resilience, thanks to automated patching and software release versioning."

There can be no doubt that Windows is much easier to use than Linux; while the latter has moved forwards in leaps and bounds in terms of usability it's still more intimidating than the Microsoft option. Apart from the ubiquitous familiarity that every Microsoft product benefits from, the Windows hosting solution is also able to offer full *FrontPage* integration, which makes site management relatively simple, even for a newcomer.

"If you want to run large discussion boards, wikis or blogging software, then Linux is the better platform"

As with all things online, content is king. If you want to run large discussion boards, wikis or blogging software, then Linux is almost certainly the better platform. There's a massive range of robust applications to choose from, most of them open source and therefore free. Windows, on the other hand, is a wiser choice if you're already using Windows-based systems such as *Access* databases, or if you want to take advantage of *FrontPage* integration. Ultimately, however, the choice isn't so much about the platforms that you choose to use, but what you want to do on them. In other words, the battle is between ASP and PHP.

ASP and PHP

ASP (Active Server Pages) and PHP (Hypertext Pre-Processor) both generate dynamic pages, which means they output web pages from databases. ASP is Microsoft's system and runs on Windows servers; PHP

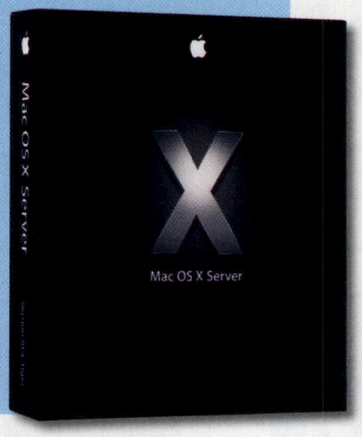
MAC OS X SERVER

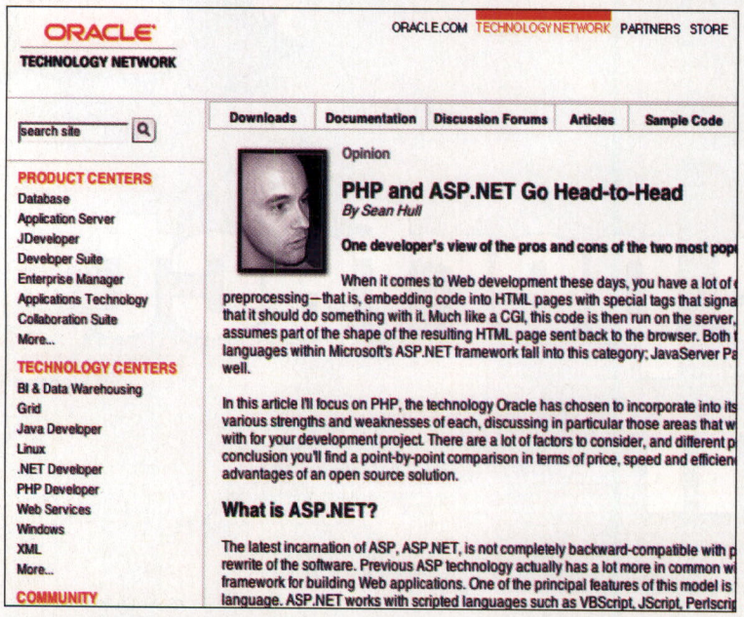
The Windows and Linux platforms are the core choices for hosting, but there is a third way – Mac OS X Server exists as a genuine alternative to both. Built along similar lines to Linux, Mac OS X Server combines popular open source server technologies such as Samba and Kerberos with Apple's easy-to-use setup, management, and monitoring tools. Like Linux, OS X Server has a similar Unix basis, however, as it is all Apple-owned, it doesn't have quite the same open source flexibility but it's still an easy-to-use, Unix-based, server platform.

OS X Server caters for a wide range of services, with support for Mac, Windows and mixed client groups. If network administration is not your bag, OS X Server could be an attractive solution because it simplifies the process by integrating services such as file sharing, web serving, networking, client management and email.

As a hosting platform, Mac OS X Server is an ideal solution for websites that concentrate on delivering graphic, audio and video-heavy content (such as Apple's movie trailer site – **www.apple.com/quicktime**). The Apache web server, QuickTime streaming server, JBoss applications server, Tomcat, Apache Axis, and MySQL are all built-in and OS X Server includes Perl and PHP, so you can script your server applications. You can quickly develop web applications for standards-based enterprise Java applications written for either J2EE or WebObjects.

Hosting package costs, using OS X Server, are comparable with the Linux and Windows alternatives. So again, it all boils down to the simple matter of your requirements.

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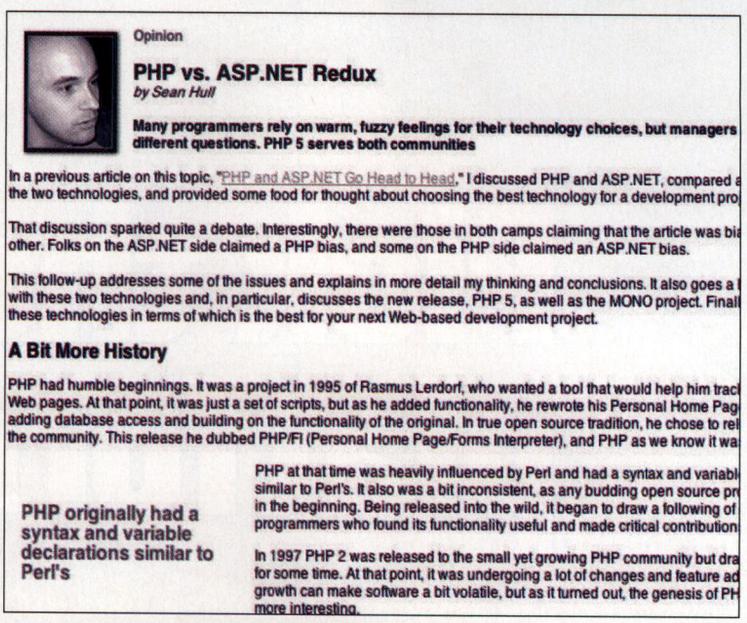
Opinion
PHP and ASP.NET Go Head-to-Head
By Sean Hull
One developer's view of the pros and cons of the two most pop
When it comes to Web development these days, you have a lot of
preprocessing—that is, embedding code into HTML pages with special tags that signa
that it should do something with it. Much like a CGI, this code is then run on the server,
assumes part of the shape of the resulting HTML page sent back to the browser. Both
languages within Microsoft's ASP.NET framework fall into this category; JavaServer Pa
well.
In this article I'll focus on PHP, the technology Oracle has chosen to incorporate into its
various strengths and weaknesses of each, discussing in particular those areas that w
with for your development project. There are a lot of factors to consider, and different p
conclusion you'll find a point-by-point comparison in terms of price, speed and efficien
advantages of an open source solution.
What is ASP.NET?
The latest incarnation of ASP, ASP.NET, is not completely backward-compatible with p
rewrite of the software. Previous ASP technology actually has a lot more in common w
framework for building Web applications. One of the principal features of this model is
language. ASP.NET works with scripted languages such as VBScript, JScript, Perlscrip

www.oracle.com/technology/pub/articles/hull_asp.html – Sean Hull's balanced view of the relative strengths, and weaknesses, of the different scripting options


Opinion
PHP vs. ASP.NET Redux
by Sean Hull
Many programmers rely on warm, fuzzy feelings for their technology choices, but managers different questions. PHP 5 serves both communities
In a previous article on this topic, "PHP and ASP.NET Go Head to Head," I discussed PHP and ASP.NET, compared
the two technologies, and provided some food for thought about choosing the best technology for a development pro
That discussion sparked quite a debate. Interestingly, there were those in both camps claiming that the article was bi
other. Folks on the ASP.NET side claimed a PHP bias, and some on the PHP side claimed an ASP.NET bias.
This follow-up addresses some of the issues and explains in more detail my thinking and conclusions. It also goes a
with these two technologies and, in particular, discusses the new release, PHP 5, as well as the MONO project. Final
these technologies in terms of which is the best for your next Web-based development project.
A Bit More History
PHP had humble beginnings. It was a project in 1995 of Rasmus Lerdorf, who wanted a tool that would help him trac
Web pages. At that point, it was just a set of scripts, but as he added functionality, he rewrote his Personal Home Pag
adding database access and building on the functionality of the original. In true open source tradition, he chose to re
the community. This release he dubbed PHP/FI (Personal Home Page/Forms Interpreter), and PHP as we know it wa
PHP originally had a syntax and variable declarations similar to Perl's
PHP at that time was heavily influenced by Perl and had a syntax and variabl
similar to Perl's. It also was a bit inconsistent, as any budding open source pr
in the beginning. Being released into the wild, it began to draw a following of
programmers who found its functionality useful and made critical contribution
In 1997 PHP 2 was released to the small yet growing PHP community but dra
for some time. At that point, it was undergoing a lot of changes and feature ad
growth can make software a bit volatile, but as it turned out, the genesis of PH
more interesting.

www.oracle.com/technology/pub/columns/hull_php2.html – Sean Hull considers readers' comments and provides technical analysis with an expo on the languages' history

JARGON BUSTER

An at-a-glance guide to hosting-speak...

ASP ASP stands for Active Server Pages, Microsoft's language for creating dynamic pages via scripting and ActiveX components.

ASP.NET Active Server Pages for the .NET framework, which is a completely revamped version of Microsoft's ASP technology.

PHP An abbreviation for Hypertext Pre-Processor. PHP is a server-side scripting language for creating dynamic web pages.

SQL Another abbreviation, this time for Structured Query Language, a standard language for getting information in and out of databases.

MySQL A fast, free, open source SQL database system. MySQL is usually run in conjunction with PHP.

Unix Stands for Uniplexed Information and Computing System. Pioneered in the sixties and seventies by Ken Thompson, it's the basis for other operating systems such as Linux.

is the open source system, and runs best on Linux. Although it's possible to run ASP on a Linux server, it's not a great idea. John Liston, Windows expert with UKFast (**www.ukfast.net**), explains: "If you're looking at running ASP stuff then I'd say Windows will have the better performance, as it is ASP's natural home. You can get add-ons for Linux that enable you to run ASP, but they are often missing basic features or have unpredictable functionality. PHP scripts run well on both systems, but Linux is probably the better choice for this." His Linux counterpart, Chris Sarginson, adds: "Linux can be moulded to perform almost any task, but you do need to know where to look – and some of the components currently available do not match up to the capabilities of their Windows counterparts."

"In addition to PHP or ASP, you'll need a version of SQL for getting information in and out of databases"

In addition to PHP or ASP, you'll need a version of SQL (Structured Query Language), for getting information in and out of databases. On Windows that means MS SQL, and on Linux, MySQL. Jonathan Robinson is business development director of Netbenefit (**www.netbenefit.co.uk**): "It's possible to achieve the same results with both, so choosing one as opposed to the other is often simply a matter of preference. After that, it may boil down to long-term cost of ownership," he says.

There are some key differences between ASP and PHP, though. PHP is generally faster to execute than ASP, it doesn't cost money to buy or upgrade, and it's usually simpler – PHP is often described as a 'quick and dirty' solution.

Open source perks

The open source movement is important here, too: bugs in open source software are typically found and fixed more quickly than on closed, proprietary platforms such as Windows. That doesn't mean Windows bugs don't get fixed, it's just that when bugs are reported in an open source project, people don't need permission to get stuck into the code to fix the problems. With Windows, bugs have to go through Microsoft's system to be analysed, tested and fixed.

But for some particular applications, Windows is the only choice. "If you're looking to run an Exchange server, you'll obviously need to run Windows," Ed Johnson notes. The same applies to other Microsoft-specific technologies, such as serving Windows Media streams or selling content protected with Windows Media DRM. If you intend to use these systems, then it's Microsoft all the way.

When it comes to money, the initial difference between Linux and Windows is obvious: Windows costs money and Linux doesn't. With a Windows server you'll need to shell out for the licence and for any upgrades to the operating system. You'll also find that many applications come with a price tag attached. With the Linux option, on the other hand, the server operating system is free and there's a huge range of open source applications that won't cost you a penny. However, you should also consider support costs: if you're not familiar with Linux you may have to get some training, or pay a Linux expert to run things.

Counting the cost

For basic hosting, the costs aren't dramatically different. For example, if you buy hosting from 1&1 Internet, Linux packages start at £4.99 per month and rise to £19.99 per month; if you take the Windows route, the prices range from £5.99 per month to £22.99 per month. However, it's important to realise that those costs are for the standard hosting packages. If you want to add additional applications, then you're likely to encounter the 'Windows stuff costs money, open source stuff doesn't' issue. It's something you should keep in mind if you're intending to add lots of add-ons to your server, either now or in the future.

"Since Linux is open source software and Windows is provided by one of the world's most successful and profitable companies, Linux is the short and long-term more affordable solution," Jonathan Robinson states. "However," he adds, "affordability is not necessarily a primary concern. Developers frequently tend to choose one platform or the other based on the type of coding they prefer to use, experience they have or even simply bias." Much of that bias comes from people's perceptions of two key issues: security and ease of use.

In addition to all the other things you have to

SIX STEPS TO SUCCESS

1 Know what you need
Discussion boards, wikis and weblogs are generally better suited to Linux, where there's a big range of applications to choose from. Windows hosting delivers *Access* database support and *FrontPage* integration.

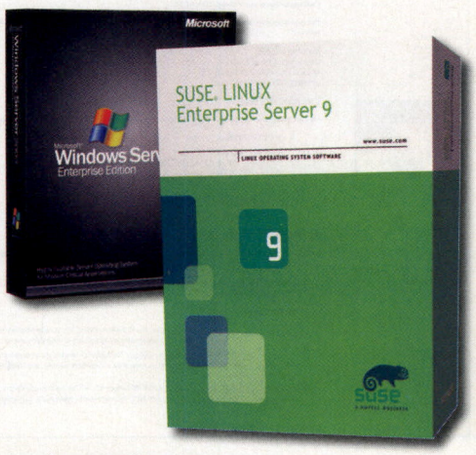
2 Think long-term
Don't just choose a platform based on what you're doing now: what will you be doing in a year's time? Will you want to stream Windows Media, perhaps? It's essential that you think about this in advance – and work out what it might cost.

3 Count every cost
Hosting costs more than just the price of the server. Add-ons for Linux tend to be free, while Windows programs cost money. Windows is easier to use, though, so if you need extra help to run Linux, take the cost of this into consideration as well.

4 Know yourself
What skills do you possess already? If you're already an ASP expert on Windows, then it makes sense to stick with what you know rather than spend your valuable time (and money) learning a whole new platform.

5 Choose your weapons
Although it's possible to script on either platform, for best results you should use the platform best suited to your choice of scripting language. ASP is happiest on a Windows server while PHP is best on Linux.

6 If in doubt, ask
Hosting firms are happy to talk you through the pros and cons of either platform, and they can give specific information on what they offer in terms of costs, support and development possibilities. So give them a call and have a chat.



Windows or Linux server – the choice is yours

consider, there are some key differences between the way Linux works and the way Windows works when it comes to security and stability. In Linux, the operating system and the graphical user interface are separate, which means that users rarely bring the whole thing crashing down when things go wrong. Windows is a much more integrated system, which can make crashes more likely (and potentially severe). With Windows, Chris Sarginson points out: "One can take down an entire server with one slip of the mouse – and it doesn't need to be an administrative user!"

Neil Lathwood is UKFast's technical director, and he identifies one key difference between the two platforms. "From the time a security hole is discovered to a patch being released, you tend to find that with Linux it's quicker – and you can usually implement a workaround on Linux by modifying code yourself before a fix is available."

In practice, your server security depends more on good administration than on your choice of operating system. As John Liston observes: "If you don't keep the system up-to-date then you run the risk of being compromised, no matter which operating system or software you use."

It's a sentiment echoed by Jonathan Robinson, who notes: "Security is much more to do with competent administration than inherent flaws. Both operating systems have suffered from having security holes discovered; it's possible that Windows suffers from worse PR, since it's a more tempting target as the face of one of the world's most successful corporations."

Ultimately, it's more about the hosting firm than the actual platform. Richard Stevenson from 1&1 Internet (**www.oneandone.co.uk**) explains: "Security and reliability will always depend upon the manner in which servers are hosted. Both Linux and Microsoft platforms hosted by a well-equipped company are highly secure and very reliable."

Easy peasy

There's no doubt that Windows is the easier operating system to use: the combination of *FrontPage* software and a Windows server makes it easy to build even complex sites, while Linux requires a bit more fiddling. Richard Stevenson compares the two approaches: "Microsoft facilitates varying degrees of design and management through essentially a drag-and-drop philosophy, via *FrontPage*, .NET framework and Share Point," he says. "Linux hosting provides more scope for adjustments and experimentation. As a result, Linux will be more suited to those who appreciate a greater degree of freedom to build and adjust through scripting and automation." He adds: "If users want a high level of control over mechanisms, then Linux will perhaps better suit them."

"Both Linux and Microsoft platforms hosted by a well-equipped company are secure and reliable"

John Brown is the SME Hosting Products manager with Pipex (**www.pipex.com**). "If you're keen to have maximum customisation, then you might prefer a Linux server," he suggests. "If you'd rather work within a known, standardised environment, Windows should be your choice."

It's important to keep the ease-of-use angle in perspective, though. As Chris Sarginson notes, while Windows can be easier to set up and configure, "it's also easier to configure badly". Irrespective of the platform, running a server does require some basic technical proficiency. Ed Johnson warns: "People should be of a high technical competency before they tackle running any server." He asserts: "One of the reasons there are proportionately more compromised Windows machines than Linux machines is because the myth exists that it's easier to run Windows. Not true – you need to know exactly what you're doing no matter which operating system you use."

You should also keep your ambitions firmly in mind: will you need more servers in a year's time? As Jonathan Robinson advises: "Using proprietary technology for a highly scalable and high-load system can be very expensive, with multiple operating system licences, database software licences and so on."

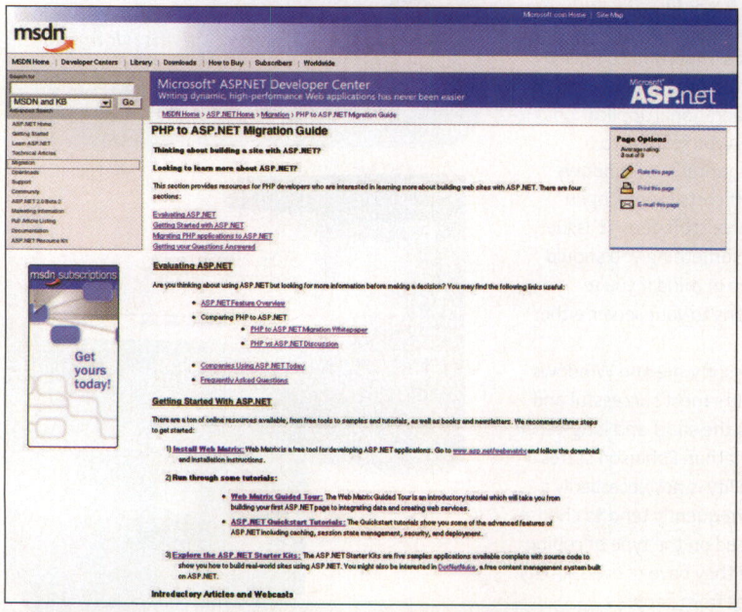
Making the move

To choose the perfect platform, you have to be absolutely clear about what you want to do and what level of expertise you have. If you'd rather do things the simple way by dragging and dropping, or if you are particularly experienced in ASP, then a Windows server is the way to go. If you feel more comfortable with a slightly more technical environment and your budget dictates that you keep a tight rein on costs, then Linux is the platform for you.

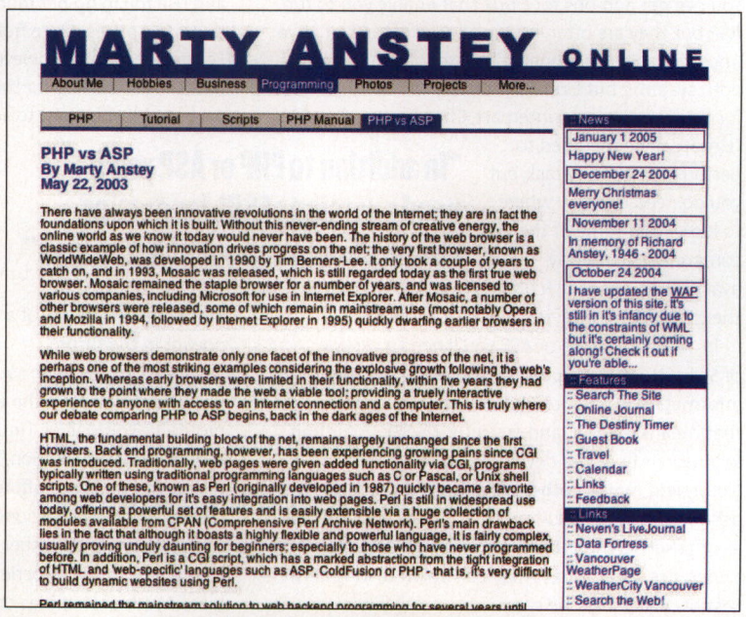
If you're reselling web space, your customers are key. "For resellers, it's as simple as considering what your customers need to use and making sure that whatever platform you choose can support them," reasons John Brown. "Developers can be a little more flexible and should make the choice based on their needs and interests."

"Consider your own areas of expertise, the applications you intend to run and the size of the solution," advises Jonathan Robinson. "Outsource the areas you are least confident about or able to deal with, and concentrate closely on the areas where you are best able to bring your own skills to the equation."

The perfect platform in the end isn't necessarily Linux or Windows; it's whichever platform suits your way of working, and offers the best match with your skill set, experience and ambitions and development plans. The most important thing about your web server isn't which operating system, scripting language or database format you use – it's you. ■



msdn.microsoft.com/asp.net/migration/phpmig/default.aspx – Microsoft's look at ASP.NET from the perspective of PHP developers. Includes a get-started guide and FAQ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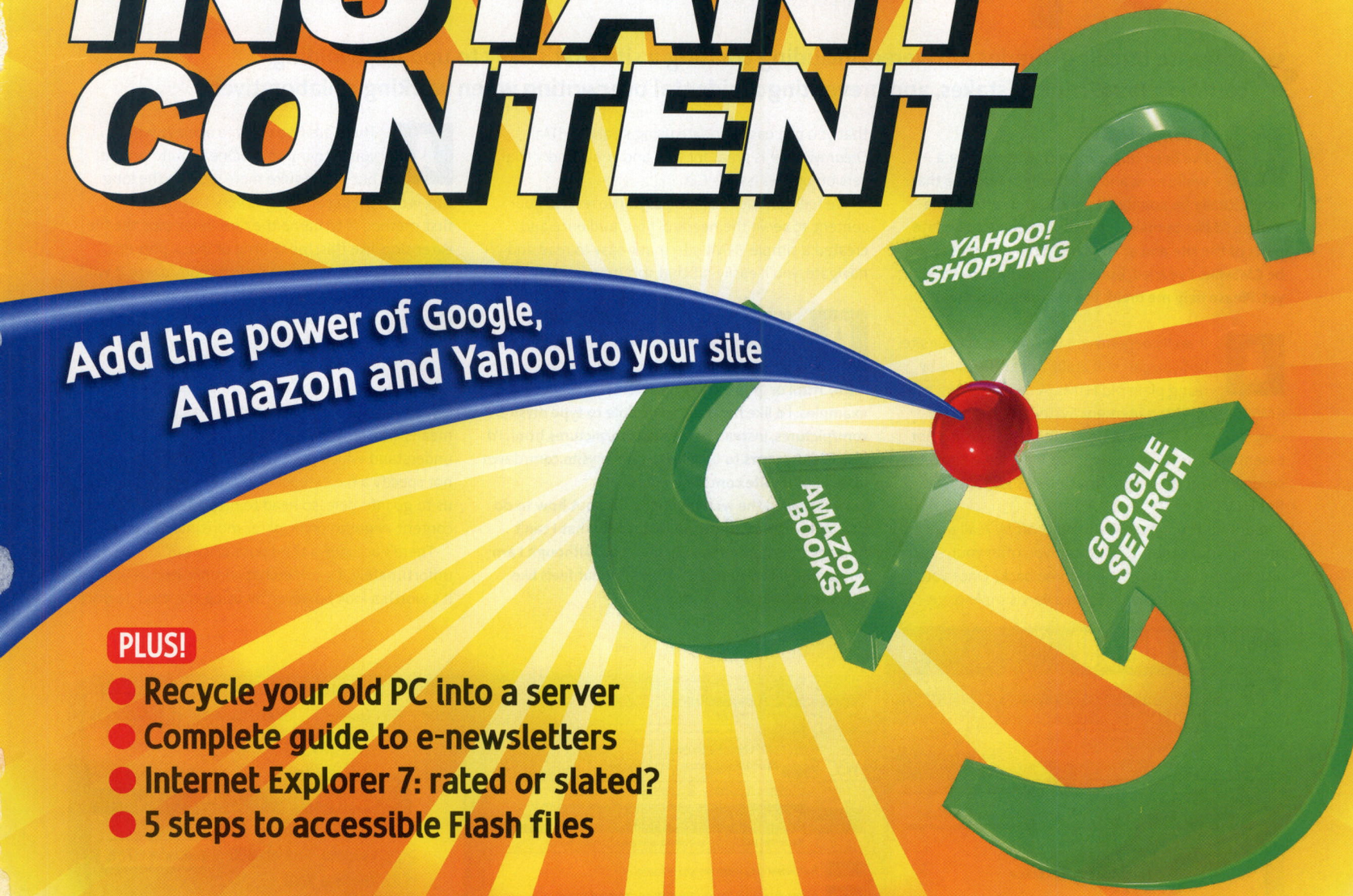
PHP vs ASP
By Marty Anstey
May 22, 2003
There have always been innovative revolutions in the world of the Internet; they are in fact the foundations upon which it is built. Without this never-ending stream of creative energy, the online world as we know it today would never have been. The history of the web browser is a classic example of how innovation drives progress on the net; the very first browser, known as WorldWideWeb, was developed in 1990 by Tim Berners-Lee. It only took a couple of years to catch on, and in 1993, Mosaic was released, which is still regarded today as the first true web browser. Mosaic remained the staple browser for a number of years, and was licensed to various companies, including Microsoft for use in Internet Explorer. After Mosaic, a number of other browsers were released, some of which remain in mainstream use (most notably Opera and Mozilla in 1994, followed by Internet Explorer in 1995) quickly dwarfing earlier browsers in their functionality.
While web browsers demonstrate only one facet of the innovative progress of the net, it is perhaps one of the most striking examples considering the explosive growth following the web's inception. Whereas early browsers were limited in their functionality, within five years they had grown to the point where they made the web a viable tool; providing a truely interactive experience to anyone with access to an Internet connection and a computer. This is truly where our debate comparing PHP to ASP begins, back in the dark ages of the Internet.
HTML, the fundamental building block of the net, remains largely unchanged since the first browsers. Back end programming, however, has been experiencing growing pains since CGI was introduced. Traditionally, web pages were given added functionality via CGI, programs typically written using traditional programming languages such as C or Pascal, or Unix shell scripts. One of these, known as Perl (originally developed in 1987) quickly became a favorite among web developers for it's easy integration into web pages. Perl is still in widespread use today, offering a powerful set of features and is easily extensible via a huge collection of modules available from CPAN (Comprehensive Perl Archive Network). Perl's main drawback lies in the fact that although it boasts a highly flexible and powerful language, it is fairly complex, usually proving unduly daunting for beginners; especially to those who have never programmed before. In addition, Perl is a CGI script, which has a marked abstraction from the tight integration of HTML and 'web-specific' languages such as ASP, ColdFusion or PHP - that is, it's very difficult to build dynamic websites using Perl.
News
January 1 2005
Happy New Year!
December 24 2004
Merry Christmas everyone!
November 11 2004
In memory of Richard Anstey, 1946 - 2004
October 24 2004
I have updated the WAP version of this site. It's still in it's infancy due to the constraints of WML but it's certainly coming along! Check it out if you're able...
Features
Search The Site
Online Journal
The Destiny Timer
Guest Book
Travel
Calendar
Links
Feedback
Links
Neven's LiveJournal
Data Fortress
Vancouver WeatherPage
WeatherCity Vancouver
Search the Web!

marty.anstey.ca/programming/php_asp.html - Developer Marty Anstey explores, in depth, the differences between open source and Microsoft scripting solutions

Building a better internet

.net

INSTANT CONTENT



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Web building help & advice

Your site building queries answered, including creating a site that's easy to update, avoiding common JavaScript mistakes, and preventing accidental overwriting when working collaboratively

Q EASY UPDATES

I've been tinkering with websites for a while now, and I've finally set up one that may actually be popular, if only I could sort out the design. I'd like to make it easier for people to update parts of the site and at the same time not appear to be CMSville. I've tried, but haven't really succeeded yet. Please help me break the 100-member mark!

A It really depends on the nature of your site, but you can still build a beautiful site by using plain old HTML. Although using a CMS (Content Management System) will make it very simple to update your site in the future, it's not essential for making a great site. In fact, we know of several portal sites with amazing design that have flat HTML pages.

Our main suggestion is to start off by really refining your content. What can you offer your visitors that will make them come back? Once you have nailed that down, design a very simple page that you can easily update using straight HTML. *Dreamweaver* is great for this, and you'll find a trial version on this issue's CD.

We feel confident that once you've refined your content to serve the needs of your audience and created a simple HTML site that's easy to read and navigate, you'll easily hit that 100 member mark!

Q IGNORING FILE EXTENSIONS

I want my visitors to be able to call a web page on my site without having to use the .htm, .html or .php extensions. Here are a few examples: I'd like my users to be able to type mysite.com/pictures, instead of mysite.com/pictures.html. I'd also like my users to be able to type mysite.com/dawn instead of mysite.com/dawn.php.

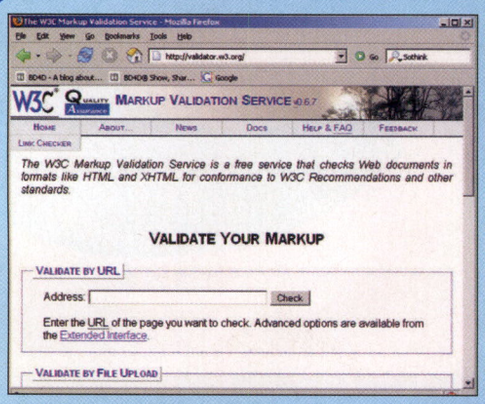
I've trawled the web hoping to find out how to do this and was very surprised to discover that I can't find any information to help me at all. Although I am not a complete beginner, I've spent what feels like years searching for a solution.

A There are two ways to achieve what you're trying to do. One is quite simple, but will require more work in the long run, while the second way is very technical. The first method is to name the files index plus the file extension, like this: index.html or index.php, etc. Then, when the user types mysite.com/dawn it will find the file regardless of whether it's index.html, index.php, index.asp, or whatever. Obviously, this method isn't ideal, as you can't have two index files in the same directory.

The second method is by configuring your Apache server to do Content Negotiation. Basically, this means that you configure the Apache web server to understand which page it should load when you do not specify a file extension. It's too complicated for us to go into here, so head to httpd.apache.org/docs/content-negotiation.html for more information.

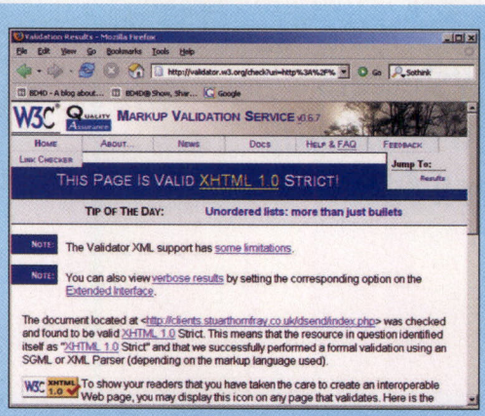
There's actually a third possibility but, unfortunately, it's somewhat complicated as well. It's worth a look however: by using the mod_rewrite

VALIDATE MARK-UP


MARKUP VALIDATION SERVICE
The W3C Markup Validation Service is a free service that checks Web documents in formats like HTML and XHTML for conformance to W3C Recommendations and other standards.
VALIDATE YOUR MARKUP
VALIDATE BY URL
Address:
Check
Enter the URL of the page you want to check. Advanced options are available from the Extended Interface.
VALIDATE BY FILE UPLOAD

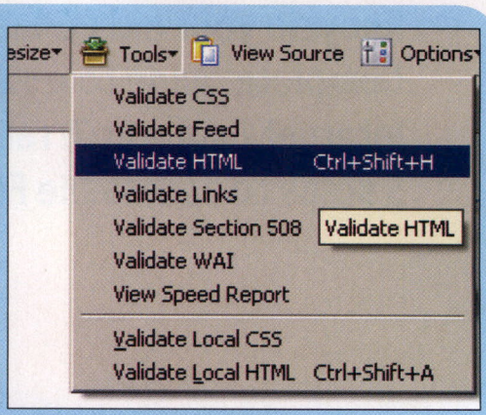
1 Open a browser

As you should know by now, it's very important to make sure your HTML markup validates according to the W3C's standards. Start off by opening a browser and heading to **validator.w3.org**. We'd highly recommend that you start using XHTML 1.0 Strict for all your pages.


MARKUP VALIDATION SERVICE
THIS PAGE IS VALID XHTML 1.0 STRICT!
TIP OF THE DAY:
Unordered lists: more than just bullets
The Validator XML support has some limitations.
You can also view verbose results by setting the corresponding option on the Extended Interface.
The document located at was checked and found to be valid XHTML 1.0 Strict. This means that the resource in question identified itself as "XHTML 1.0 Strict" and that we successfully performed a formal validation using an SGML or XML Parser (depending on the markup language used).
To show your readers that you have taken the care to create an interoperable Web page, you may display this icon on any page that validates. Here is the

2 Enter your URL

Enter the URL of your website into the Validate by URL text box or, if you want to test a local file, browse for the file in the Validate by File Upload section. The validator will then give you an extremely verbose report on whether your markup is up to scratch or not.



3 Install the toolbar

To validate your file instantly, straight from the browser, install the Web Developer Toolbar (**chrispederick.com/work/firefox/webdeveloper**) and choose Tools > Validate HTML (or Ctrl+Shift+H). This is a much quicker way of checking files for the correct markup.

INSTALL AND RUN THE GREASEMONKEY AJAX DEBUGGER

Q AJAX DEBUGGING

I'm using *Firefox* more and more these days, and I'd like to start utilising its more advanced features. Can you give me some advice on the best ways to get started?

A *Firefox* has thousands of useful plugins that are available to download and install. The term that the *Firefox* team has given to these useful programs is extensions, and you can find a complete list at **https://addons.mozilla.org/extensions/?application=firefox**. Here you'll find extensions that can help with everything from blogging to XUL applications. Of course, all of them are completely free to download, so dive right in.

One very powerful extension is called *Greasemonkey*. This enables you to add DHTML scripts to any page to modify its behaviour. Once you install *Greasemonkey*, you can find a plethora of useful *Greasemonkey* scripts.

First, we'll walk you through how to download and install *Greasemonkey* and then we'll show you how to install an amazing AJAX debugger, which uses *Greasemonkey*.

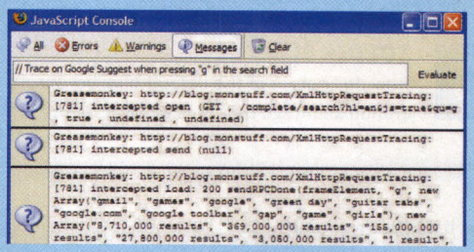
To get started, head to **greasemonkey.mozdev.org** and click Install Greasemonkey 0.3.3 (the version number might be different by the time you read this). You'll probably find that you receive a warning telling you that *Firefox* has prevented software from being installed on your machine, but this is easy to get around.

To ignore this message and complete your installation of *Greasemonkey*, simply click on Edit Options... and Allow, then click OK. Now click Install Greasemonkey 0.3.3 again, and *Firefox* will install *Greasemonkey*. To finish, close and reopen *Firefox*.

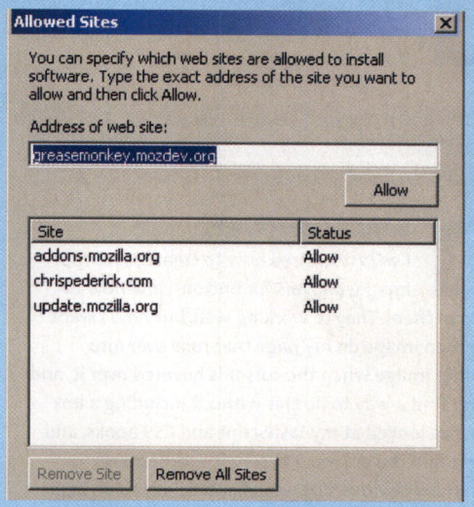
Now that you've installed *Greasemonkey*, you can download and install the AJAX debugger. Point your browser at **blog.monstuff.com/archives/images/XMLHttpRequestDebugging.v1.0.user.js**; this is a *Greasemonkey* script, and it needs to be installed in order for it to work. Choose Tools > Install User Script from the menu in *Firefox*. In the pop-up window that appears, click Add and type http://www.google.com/*, which will enable us to test the AJAX debugger on Google Suggest.

Now head to **www.google.com/webhp?complete=1&hl=en** (Google Suggest) and choose Tools > User Script Commands > Show XMLHttpRequest console from the *Firefox* menu. The debugger will then list each XMLHttpRequest invocation – you'll see something similar to the top screenshot on the right. You'll also have options to replay or edit the request.

As you can see, debugging using this method will save you a huge amount of time, as it takes all of the guesswork out of what the AJAX code is currently executing.


JavaScript Console
All
Errors
Warnings
Messages
Clear
// Trace on Google Suggest when pressing "g" in the search field
Evaluate
Greasemonkey: http://blog.monstuff.com/XmlHttpRequestTracing: [781] intercepted open (GET , /complete/search?hl=en&jsr=true&qu=g , true , undefined , undefined)
Greasemonkey: http://blog.monstuff.com/XmlHttpRequestTracing: [781] intercepted send (null)
Greasemonkey: http://blog.monstuff.com/XmlHttpRequestTracing: [781] intercepted load: 200 sendRPCDone(frameElement, "g", new Array("gmail", "games", "google", "green day", "guitar tabs", "google.com", "google toolbar", "gap", "game", "girls"), new Array("8,710,000 results", "369,000,000 results", "155,000,000 results", "27,800,000 results", "8,060,000 results", "1 result",

Every XMLHttpRequest invocation will be listed here

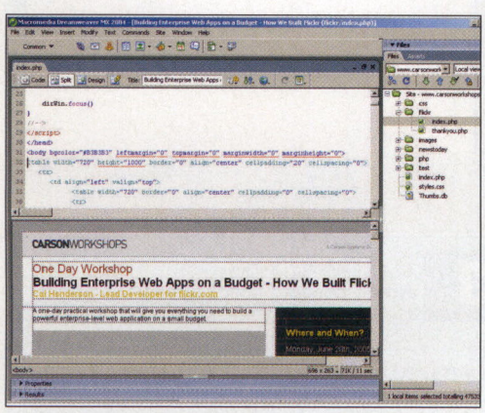


This is the control panel that determines which Firefox extensions can be installed

capability of Apache, you can actually dynamically rewrite URLs into something more easily readable. For more information on how to do this, head to: scribbling.net/how_scribblingnet_freed_itself_from_file_extensions_and_internal_ids.

Q COMMON JAVASCRIPT MISTAKES

I seem to be getting a lot of clients who want tons of JavaScript functionality on their site. Can you give me a list of some common JavaScript errors that I can watch out for? This would be really useful as a quick reference guide.



You don't have to be an expert coder to build a great site that will keep visitors coming back

A Using a checklist is a very good way of avoiding errors. Here are some of the most common ones:

- Executing one too many on iteration loops:

```
for(var j=0; j<=list.length; j++)
{
 yourFunction(list[j]);
}
```

- Misspelling variable names:

```
}var joe = 1;
if (jeo == 1) // Do something
```

- Infinite loops:

```
for(var x=0; x<5; x++)
{
 x--;
}
```

By the way, a great way to debug your JavaScript is by using the JavaScript Console built into *Firefox*. To use it, just click on Tools > JavaScript Console.

Q CHECKING YOUR SITE

The web design company I work for wants all of us designers to make sure our designs are accessible. We're supposed to use Bobby to check them. Can you please explain how we should do this?

A There is a common misconception that all you need to do when it comes to making your site accessible is validate it with Bobby. The Bobby validator is a useful tool, but doesn't determine whether your site is accessible.

The only way to do this is by properly studying the WCAG 1.0 standards document. A useful checklist can be found at **www.w3.org/TR/WCAG10/full-checklist.html**. It's also a good idea to start reading accessibility sites like **www.accessify.com** and **www.juicystudio.com**, which are excellent for helping you to make your site accessible.

Accessibility isn't something you can simply achieve by getting the Bobby Validator to give you a score of AA or AAA. It comes from truly understanding what makes sites accessible and moving towards that. Follow the above points and you'll be on your way!

Q SOTHINK AND FIREFOX

I've built a template page using *Dreamweaver MX* and a Sothink menu. The page looks fine in *IE* but in *Firefox* all you see is the source code! What's happened?

A We've had a good look at the code and it appears the problems are associated with your *Dreamweaver* templates, not with the Sothink DHTML menu. We stripped out all the

Dreamweaver template tags and the page then displayed fine in *Firefox*. Delete the template areas, one by one, until you find the culprit.

Q BORDER BLUES

How do I get rid of the default blue border around an image that is a link? I've tried:

```
div#image a {text-decoration: none; border: 0;}
```

...but it doesn't work. Help!

A You should find that this CSS code should work for you – it removes the blue border from any image:

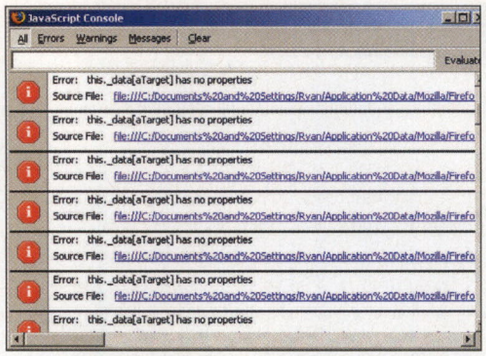
```
img {
 border-style: none;
}
```

Q IMAGE ROLLOVERS

I've just learned how to create JavaScript image rollovers for buttons, and how to preload them. They're working well, but now I want to put an image on my page that rolls over into another image when the cursor is hovered over it, and I can't find a way to do this without including a link in it. I've looked at my JavaScript and CSS books, and I can't find the answer. I'm sure it's something extremely obvious, but would appreciate some help!

A The <img> tag has two events that are perfect for what you're trying to do. They're called onmouseover and onmouseout. The code would look like this:

```
<img src="01.jpg" onmouseover="this.src='02.
jpg';" onmouseout="this.src='01.jpg';"
```



The JavaScript Console in *Firefox* will save you a huge amount of hassle when it comes to debugging

```
alt="..." />
```

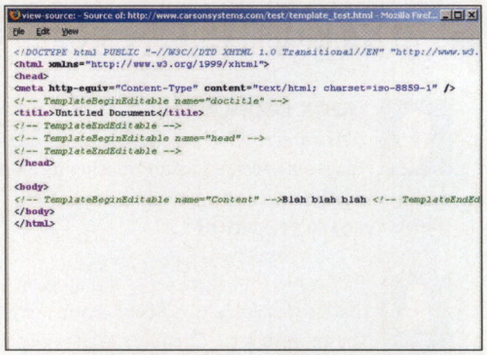
To make sure this is accessible, change the "..." alt attribute to something meaningful.

Q FILE AND RANK

How do I use meta tags to make my site come up on a search engine? I've visited Google and submitted my site address, but nothing comes up when I type my name. Can you help? Surely my site should come up when I type my name?

A Search Engine Optimisation (also known as SEO) is not a black and white issue. It's a delicate balancing trick, which requires some creativity and strategic thinking. It's too large a subject to summarise in a Q&A, but here are some things to consider:

- Search engines like Google examine the content of your site, as well as the meta tags. If you want your site to achieve a high rank when someone types your name, make sure there are plenty of valid headers and text on the page that talk about you and your site.



***Dreamweaver* templates are useful, but if used incorrectly they can give you a page which shows nothing but code**

- Try to find a domain name that actually contains whatever site name you've chosen to use – this will help enormously.
- Get links to your site on other sites. It appears that Google will rank you higher if other people are linking to you. However, avoid schemes that promise to get your site listed on thousands of others; they're scams, and Google ignores them anyway!

For more in-depth info, have a look at Google's SEO page at **www.google.co.uk/intl/en/webmasters/seo.html**, or check out our feature on optimising your site for Google on page 34.

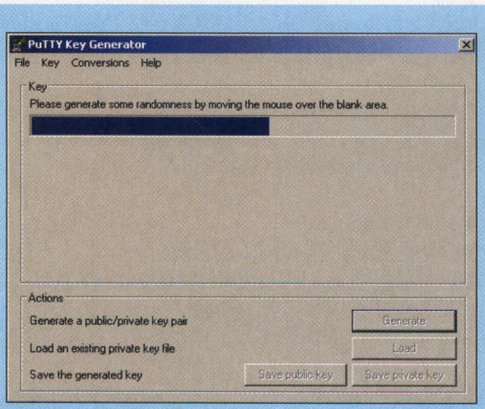
Q COUNTING ROWS

I'm in the process of building a quotes database for a forum, and I want to have a link that will load a random quote from the database as the next page. I've worked out how to do this between two set values, for example 1 and 10000, but my problem comes from an ever-expanding database. I need PHP to insert the last key in my database in place of 10000, so that it always picks from the entire database and not more.

GENERATE AN SSH KEY

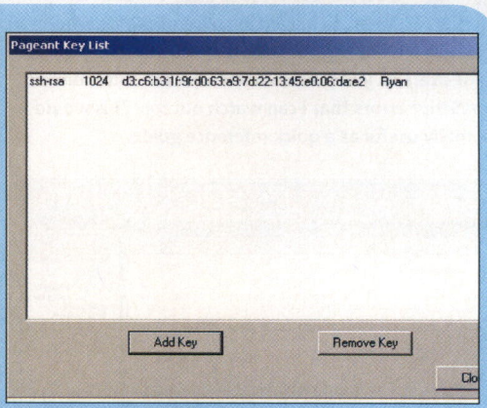
1 Record your password

If you SSH into your server frequently, or use *TortoiseCVS*, you don't want to have to type in your password every time. Using SSH keys is an easy and secure way to do this. Download *PuTTy Key Generator* at **tinyurl.com/2qlno**.



2 Aide memoir

Open the .exe and click Generate. Enter a useful comment in Key comment and type in a password in Key passphrase, and again in Confirm passphrase. Click Save private key, and choose a location on your hard drive.



3 Is it really you?

Now click Save public key, and upload it to your ~/.ssh folder on your server. Rename it authorized_keys. Now download *Pageant* (**tinyurl.com/c6xce**) and add your private key. *Pageant* will use your private key, in conjunction with your public one, to authenticate you.

GET STARTED WITH CVS

Q COLLABORATIVE WORKING

I often work on my company website with one or two other people, and I worry that we could overwrite each other's changes, thus undoing a lot of hard work. Do you have a suggestion for preventing this?

A We'd suggest using CVS (Concurrent Versions System), which comes standard with most Linux web servers. The reason CVS can be so handy in situations like this is that it stores a new version of your files every time you save; this enables you to go back to earlier versions if the current version of a file is broken and can't be fixed. CVS also alerts you if someone has changed the same line of code that you've changed, and asks you to resolve the conflict.

In order for you to use CVS, you'll need SSH access to your web server, *PuTTy* (**tinyurl.com/2r4w**) and *TortoiseCVS* (**tortoisecvs.org**). The first thing that we need to do is a bit of Linux system administration; we're going to create a group of users who can use CVS. Start by SSHing into your server (using *PuTTy*) as the root user.

To create the group of users, type groupadd cvsusers. Now we want to create some new users and add them to this group. Let's say you'd like to allow a colleague named Bob to use CVS. Type 'adduser -g cvsusers bob', and hit Enter. Now you need to create an account for yourself to use CVS, so type 'adduser -g cvsusers joe' (make sure that you replace joe with your own name!).

Now that we've done the necessary system administration stuff, we can move on to creating the CVS repository on the web server. The repository is where all the files for your projects will be stored. To do this, type 'mkdir /var/lib/cvsroot'. Then change the group to cvsusers for the folder, by typing 'chgrp cvsusers /var/lib/cvsroot' and hit Enter. Now we need to give the group the correct permissions to the directory. To do this, type 'chmod g+srwx /var/lib/cvsroot' and hit Enter. We've done all the hard work now, so all that's left is to initialise CVS. To do this, type 'cvs -d /var/lib/cvsroot init' and hit Enter again.

Next, we need to install *TortoiseCVS*. Once it's installed, open Windows Explorer and right click the project folder. Make sure the project folder is organised correctly, as it's hard to change later. Go to CVS > Make New Module, and choose Secure shell (:ext:) from the Protocol drop-down, type your web server's IP address into Server, leave Port blank, type '/var/lib/cvsroot' into the Repository folder and type your user name (joe in our example) into User name and then hit OK. This sets up a local sandbox of the project folder. Enter your password when it's requested, and *TortoiseCVS* will take care of setting up the project in CVS. To finish, right click the folder and choose CVS Add Contents.

Repeat the actions in the above paragraph for Bob, and you can both start using CVS to work on your project, without fear of overwriting each other's work.

```
# mkdir /var/lib/cvsroot
# chgrp cvsusers /var/lib/cvsroot
# chmod g+srwx /var/lib/cvsroot
#
```

It's important to set up the directory permissions correctly in order to keep your CVS installation secure

A Your project is interesting, and luckily, SQL has the perfect statement for this, called COUNT. The following snippet of code demonstrates how you would use it:

```
SELECT COUNT("column_name") FROM "table_name";
```

Just replace column_name with a column name from the table (any will do) and table_name with the name of the table.

Q HOW TO GET STARTED ONLINE

I've been playing around with PHP and MySQL on my local server (Apache on Win32), and now I want to start using it live. However, it looks like I'm a bit more ignorant when it comes to this side of things than I thought I was.

Looking at the various solutions, I'm confused about some of the terms that are used, and now I'm starting to have doubts about how easy it will be to get my databases and code to work online. Do I have to pay for a Microsoft server with PHP & MySQL (these seem thin on the ground), or will a Linux host be easy to upload to? I only want to read/write form data and automatically send emails (all text, so minimal bandwidth), and I'm unlikely to be able to afford a dedicated server. Help!

A We'd recommend trying shared hosting. This means that you pay a small amount and share a physical server with other customers. You don't have complete control over the php.ini file or Apache, but for what you need, it should be more than enough.

Once you've chosen your hosting company, the server should come with PHP, MySQL and Apache preinstalled and ready to go. All that you'll need to do is FTP your files up to the server, and then point your browser at the IP address given to you by your hosting company.

The basic package you should be looking for will provide 100MB storage, at least five POP3 accounts, 100MB bandwidth, FTP, SSH and PHPMyAdmin (to import and manage your MySQL databases). You shouldn't have to pay more than £10 per year for something like this. Alternatively, you could check out your options with a VPS (Virtual Private Server); this is a solution that's halfway between shared hosting and a dedicated server, in terms of both cost and functionality.

Q JAVASCRIPT JINX

I'd like my site to be XHTML 1.0 Strict but I also need JavaScript. Every time I try to validate the page, it fails because of the JavaScript code. What can I do about this?

A The easiest way to use JavaScript, and still make your page XHTML 1.0 Strict, is by including the JavaScript as an external source. Here's an example:

```
<script type="text/javascript" src="http://www.yoursite.com/js/code.js"></script>
```

If you have to include the bare JavaScript code in the page itself, make sure that you place the code inside CDATA tags, like this:

```
<script type="text/javascript">
  <![CDATA[
  ... Javascript goes    here ...
  ]]>
</script>
```

CDATA tags tell the XHTML parser that the contents aren't to be tested for XML conformity.

Q PERFECT PLANNING

I'm embarking on my first web application using MySQL, PHP, Apache and Linux. I only have a limited knowledge of hardware in this area, so I could use some advice on avoiding common pitfalls.

A Here's a checklist of thing to make sure you do that will save you a huge amount of hassle:

- Build cold hardware redundancy (at least two of everything) into your solution.
- Make database dumps. Preferably nightly.
- Back data up to a separate machine.
- Back up your source control repository on a regular basis, preferably weekly.
- Use Source Control (CVS).
- Create a One Button build, stage and deploy program.
- Use a bug tracker. You can get *Bugzilla* for free at **www.bugzilla.org**.
- Tag your releases, so you can roll back.
- Set up your bug tracker to email users when a task is assigned to them.

If you follow this list, you'll be on your way to building a solid web app. ■

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Lumison www.lumison.net	N/A	✔	✔	✔	✘	✔	✘	✔	✔	POA	N/A	✔	✔	✘	✔	✔	✔
Magic Moments www.magic-moments.com	0808 100 6200	✔	✘	✔	✔	✔	✔	✔	✔	£79.50	600MB	✔	✔	✔	✔	✔	✔
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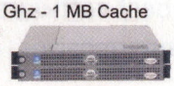

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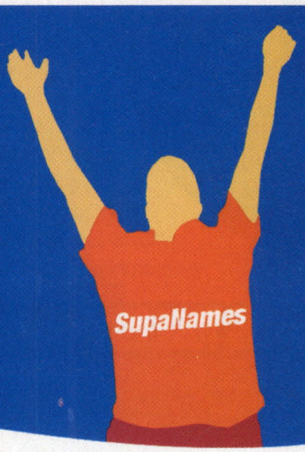

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Paul Douglas, .net magazine

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All you need to create great sites

Delve into this issue's CD and you'll discover some of the best software available for putting together innovative and great-looking websites

Every issue we bring you a selection of fantastic software that will help you create great websites. We provide you with the essential software and tutorials you need to complete the projects in *Practical Web Design*, and also with a selection of full and trial programs. This issue we've got three full programs worth more than £280 to help you in your web work – *BrowserBob Pro* and special editions of *Roxio PhotoSuite* and *CubeCart* – plus *Layout Master* and trial versions of *Ikivo Animator* and *Dreamweaver 8*.

DISC PROBLEMS

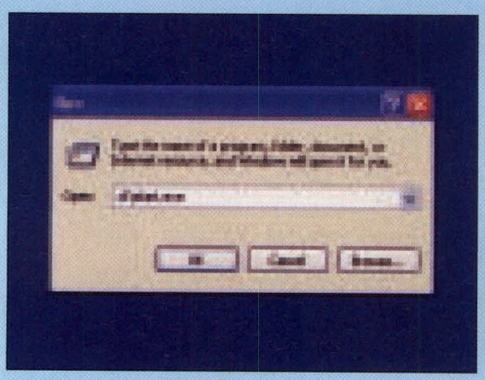
If you have a query about using your disc's interface or its content, please visit our reader support site at www.futurenet.co.uk/support, where you can find solutions to many common disc problems. If you are still experiencing difficulties, please email our reader support team at support@futurenet.co.uk, who will provide further assistance.

If you would prefer to talk to a member of our reader support team, please call 01225 822743. Please note that we can only give basic advice on using the interface and installing the software from the disc. We cannot provide in-depth help on applications, or on your hardware or operating system.

ON THE DISC

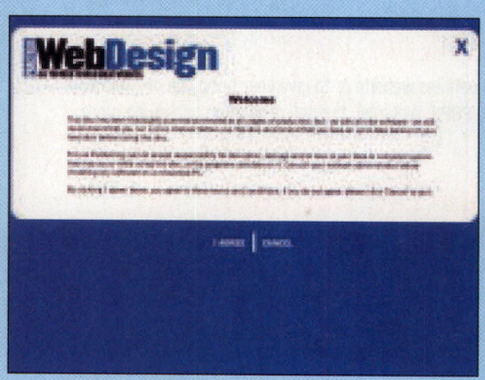
BrowserBob Pro 3.2	Full	PC
Roxio PhotoSuite 5 LE	Full	PC
CubeCart 3.0.3 SE	Full	PC/Mac
BoxedArt	Full	PC/Mac
Gallery images	Free	PC/Mac
Layout Master 1.1	Free	PC
Ikivo Animator 1.1	Trial	MAC/PC
WEB TOOLKIT		
Dreamweaver 8	Trial	PC/Mac
Dreamweaver eBook	Free	PC
Contribute 3	Trial	Mac
Fonts	Free	PC/Mac
BrowserBob Pro 4	Trial	PC
Radio UserLand 8.1	Trial	PC/Mac
Color Schemer Studio 1.5	Trial	PC/Mac
Presto Web FX 2	Trial	PC
Web Survey 5.2	Trial	PC
FeedDemon 1.5	Trial	PC
BlueCrab 4.1.8	Trial	Mac
MOBILE TOOLKIT		
Eudora Internet Suite 2.1	Free	Palm
Lyma Themes	Free	PDA
PocketTV 1.1.2	Free	Phone/PDA
Pocket RAR	Free	PDA
Battery Pack Pro 2	Trial	Phone/PDA
Total Input Elite 2.0.6	Trial	PC/PDA
Agendus Standard 10	Trial	Palm
NewsBreak 1.1	Trial	Phone/PDA
.eWallet 4.0.2	Trial	Phone/PDA
VeriChat 2.86	Trial	Palm

USING YOUR DISC



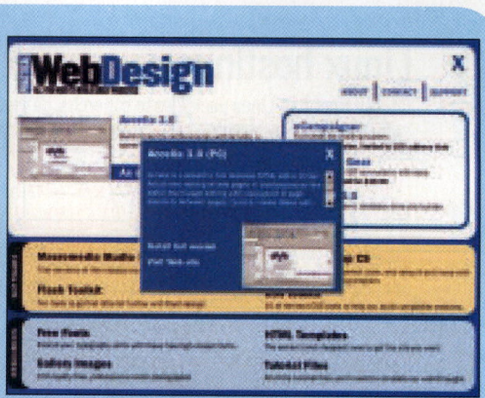
1 Start the disc

Insert the CD into your CD drive. It should start up automatically. If not, click start, then choose Run and type d:\start.exe and click OK. If you have a Mac, open the CD on your desktop and navigate to the appropriate directory.



2 Read the agreement

After a few seconds you'll see a set of conditions for using the CD. Please read them carefully and click OK if you agree. You're then taken to a menu from where you can install the software on the CD.



3 Use the software

The software is split into sections that you can visit by choosing the button highlighting the program you'd like to use. You can then install software by clicking on the program link. It will start to install on your machine.

CubeCart 3.0.3 SE
Build an online shop

Create a custom store and start selling straight from your website with the server-based power of CubeCart

Fancy e-commerce solutions can be costly and frustrating to manage, but if you have your own server you can do it yourself and save a packet in the process. *CubeCart* from Devellion is one of the simplest ways to get started.

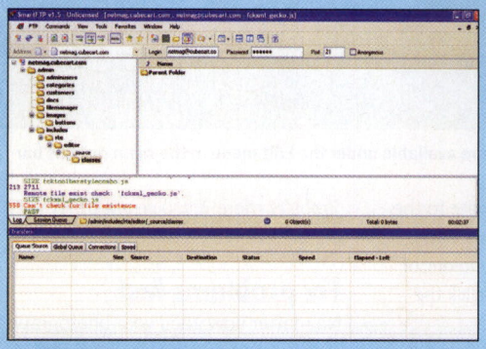
In simple terms, *CubeCart* is an e-commerce script written with PHP and MySQL that enables you to set up a powerful online store as long as you have hosting that supports PHP and a MySQL database. It's fully customisable, enabling you to achieve the look you want. *CubeCart* can also assist with managing multiple products and provides an easy-to-use administration panel that gives you full control over both product and customer details. The whole thing is fully template driven, so you can really start selling in just a few hours, and a wide range of payment methods are catered for.

Note that while this is a full version of *CubeCart*, it expires on March 1, 2006. ■

PRODUCT INFO

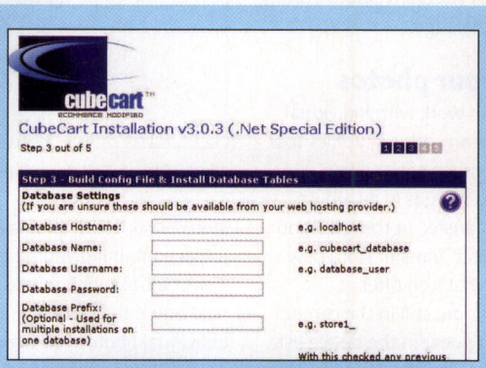
- **Distributor**
  Devellion
- **Web**
  www.cubecart.com
- **Min Requirements**
  Windows 98/NT/ME/2000/XP, at least PHP 4.1.1 and MySQL 3.23
- **As sold for**
  £25

START SELLING WITH CUBECART



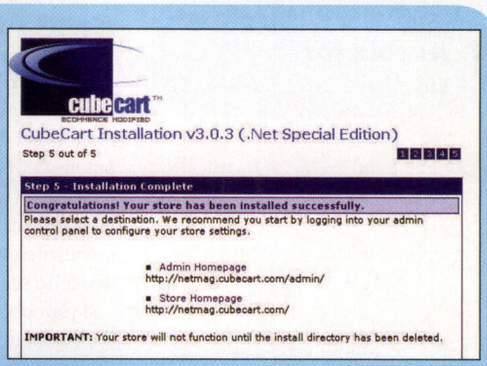
1 Upload CubeCart files

To get *CubeCart* up and running you need to unzip the *CubeCart* files and upload them to your server. Connect to the server using software such as *SmartFTP* (**www.smartftp.com**), and select Upload from the menu. This process can take some time, so it's a good idea to do a few folders at a time so the server doesn't time out.


cubecart
CubeCart Installation v3.0.3 (.Net Special Edition)
Step 3 out of 5
Step 3 - Build Config File & Install Database Tables
Database Settings
(If you are unsure these should be available from your web hosting provider.)
Database Hostname:
e.g. localhost
Database Name:
e.g. cubecart_database
Database Username:
e.g. database_user
Database Password:
Database Prefix:
(Optional - Used for multiple installations on one database)
e.g. store1_

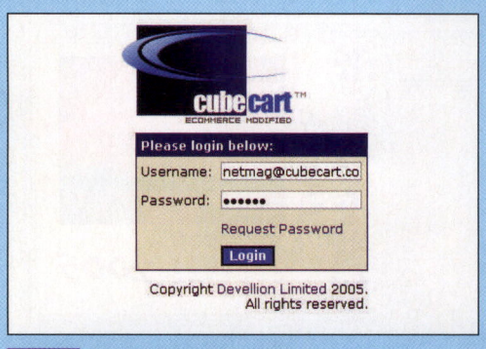
2 Install CubeCart

Once you're sure all the files have been uploaded – and there are quite a few – go to your server account to install the program fully. There are five installation steps, and you'll need to enter your server and account specifics in step three to tie the program into your working server. Make sure your details are correct, and choose a password.


cubecart
CubeCart Installation v3.0.3 (.Net Special Edition)
Step 5 out of 5
Step 5 - Installation Complete
Congratulations! Your store has been installed successfully.
Please select a destination. We recommend you start by logging into your admin control panel to configure your store settings.
Admin Homepage
http://netmag.cubecart.com/admin/
Store Homepage
http://netmag.cubecart.com/
IMPORTANT: Your store will not function until the install directory has been deleted.

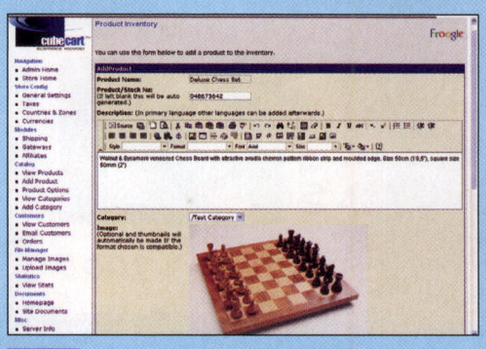
3 Obtain file permissions

You may find that the file permissions for some of your files on the server don't match those required. *CubeCart* will tell you which three-digit code is required, and you can just go on to your server and locate the file, go into Properties and enter the new code. Click Try Again, and the installation will proceed to the next step.



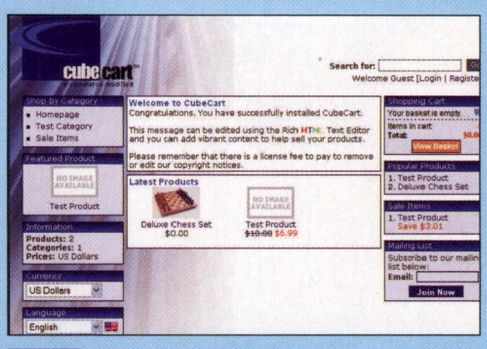
4 Log in to the store

When the installation is complete you have two choices: to go to the Admin page of your store or visit the store itself. Click Admin Homepage; you'll be prompted to enter your new login details to proceed to the secure store. Do this, then familiarise yourself with the *CubeCart* set-up, which is simply laid out, and includes handy links.



5 Enter product details

Now it's time to start adding products. Under Catalog click Add Product, and enter the details. You'll notice a handy *Word*-like editor for your product description, plus you can easily upload digital photos of your products of up to 2MB.



6 View the store

Once a product has been added, view the store by clicking Store Home under the Navigation header on the left. Your product will appear as a Latest Product. If you don't like the current set-up, go into General Settings and change the defaults. You can also view stats and add text documents to your site from the navigation panel.

Roxio PhotoSuite 5 SE

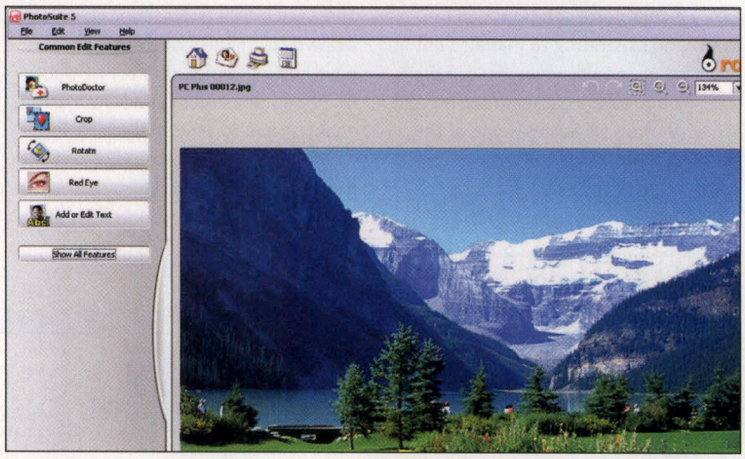
Take control of your photos

Use PhotoSuite to organise your photos, fix problems and add special effects, then share the results with your family and friends by creating a slide show

PRODUCT INFO

- **Distributor**
  Roxio
- **Web**
  www.roxio.co.uk
- **Serial**
  www.roxio.co.uk/cd
- **Min Requirements**
  Windows 98SE/Me/2000/XP
- **As sold for**
  £20

You're just back from a spectacular holiday, and want to share your great photos with distant family members. Normally this might take a while (you'll have to pick out your favourite shots, tweak them to make sure they're looking their best, resize them to an emailable size, and so on), but *PhotoSuite 5* can handle everything in just a few minutes – and the best bit is that you don't need any photo-editing or graphics knowledge.



Most of *PhotoSuite's* options are available under the Edit menu in the main options bar

Transfer your photos

PhotoSuite 5 can work with individual photos, just like any other graphics tool, but life will be much easier if you organise all you images in an album instead. Click 'Transfer' in the left-hand menu, then select 'Transfer from new device' to see what's on offer.

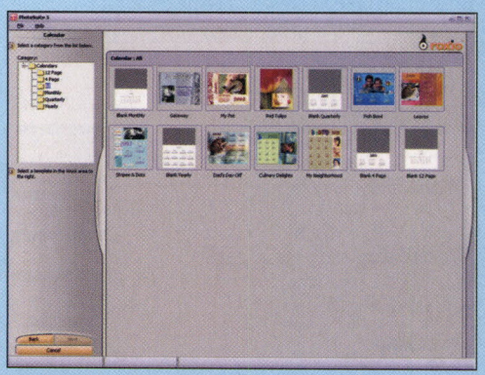
If your photos are still in the camera then it should appear in the device list. Click on the device, select 'Next', and use the built-in wizard to transfer your files. If you've already imported your images, choose the drive on which they're stored, click 'Next', and navigate to the folder containing your photos. Click 'Select all' to highlight every folder, or hold down the Ctrl key and click the individual photos you need.

Click 'Next', and enter a suitably descriptive name for your photo collection. Then select 'Transfer' to copy your photos to the new album, or 'Transfer more' if you've got other pictures stored elsewhere.

Fix problems fast

No matter how good your photography skills, occasionally your camera can let you down, leaving exposure, colour balance or framing problems that need to be addressed. Click 'Edit & Create' in

GET CREATIVE WITH YOUR DIGITAL PHOTOS

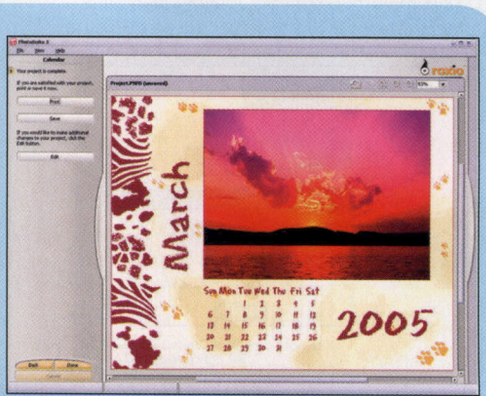


1 Create a new project

In addition to its image organisation and editing features, *PhotoSuite* includes some great desktop publishing tools – we'll show you how to create a calendar using your own photos. To start click Edit & Create > Projects, choose 'Calendars' from the 'Project Type' list, and click 'Next' to see a selection of the templates on offer.

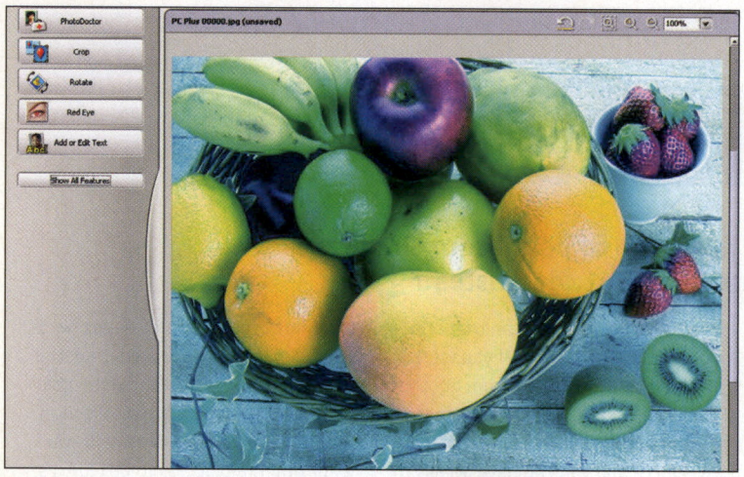
2 Choose a template

Roxio comes with a full range of calendar layout options (monthly, quarterly, yearly and more). Choose the type you'd like to create from the left-hand menu, then browse the templates in the main work area, select your favourite design and click 'Next' (we'll replace the photo in a moment).



3 Add your photos

Click 'Next', choose which year and month you'd like the calendar to begin at, and select 'Next' again. Click 'Replace Photo', then choose a preferred image from a *PhotoSuite* album, or any other file on your hard drive. Click 'OK', move and resize the new photo if necessary, then print the finished page.



The colour balance depicted here doesn't look quite right, but the PhotoDoctor can fix problems such as this in a couple of clicks

PhotoSuite, then choose the Edit tool. You'll see thumbnail previews of your newly added photos, and you can select any shot that needs work.

Roxio recognises that typical image editors can be intimidating, so you won't find a host of floating toolbars here. In fact, most problems can be resolved automatically by clicking PhotoDoctor > AutoFix. *PhotoSuite* will analyse and then tweak your photo's exposure, saturation and sharpness, and display the new image for your approval.

Take more control

Automated processes like PhotoDoctor are great for beginners, but if you're familiar with image editing then you'll probably want to have more control over the process. Click 'Show All Features', and you can do just that.

PhotoDoctor will disappear, and you'll see an 'Overall Quality' menu instead. From here you can manually adjust exposure, saturation, sharpness, tint, brightness or contrast, to get the best possible results.

You can remove red eye, blemishes or wrinkles, and there's a range of options designed for fixing damaged photos; you can remove dust or scratches, or fill in missing areas and add a few effects with the Clone tool.

The best part comes in the Special Effects menu, though. You get lots of options – over 100 in fact – and they all come with previews to show how they work. Better still, most effects can be customised for some very interesting results, and this feature alone may be enough to justify installing *PhotoSuite*, even if you have other editing software.

Create a slide show

Now you've got your photos looking the way you want, they're ready to be shared with other family members, and one very good way of doing this is via a slide show (Print & Share > Slide Show).

Select 'Create a new slide show', click 'Next', and choose the images that you've edited (click 'Add More Photos' if you want to add additional images from elsewhere). Drag and drop your chosen photos in the order you'd like them to appear in the slide show.

Click 'Next', then work your way through the slide show, giving each photo an appropriate caption. You can take the opportunity to personalise your show some more by clicking 'Record', and narrating a soundtrack for your viewers. Try to keep this brief; your viewers won't want to keep listening to your comments when they're keen to move on to the next photo.

Click 'Next' again, and select Email > Package Slide Show > Next. *PhotoSuite* combines your photos and soundtrack into a standalone executable file that you can either email immediately, or (if it's too big) distribute on CD. Save the file, and your slide show is complete. All your viewer needs to do is pop it into the drive and run the file; everything else runs itself. ■

UPGRADE

PhotoSuite 5 is supremely easy to use, but any image enhancements or fixes you apply will affect the entire photo. This restriction doesn't apply in version 7, as new selection and masking tools enable you to work on specific parts of your images. Once your photos are looking perfect, use the Media Manager to organise them into albums. Then start up the new Storyboard feature, which enables you to create engaging slide shows with photos, video clips and a soundtrack.

If you need even more CD or DVD authoring power, take a look at *Roxio Creator 7*. It's a digital media suite that combines Roxio *PhotoSuite 7*, *EasyCD/DVD Creator* and *VideoWave* into one package, and it's much cheaper than buying them separately. When you factor in our special £20 discount, the price is ever lower still: £29.99 for *PhotoSuite 7 Platinum Edition*, or £49.99 for *Creator 7*. Visit **www.roxio.co.uk/adban/pcplus/upgrade** to place your order.

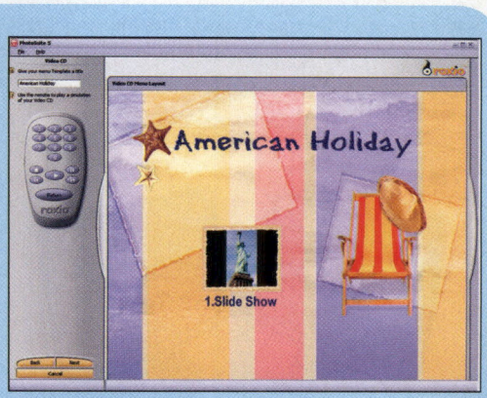
CREATE A VIDEO CD OF YOUR FAVOURITE SHOTS

1 Choose background and music

There's a limit to the size of slide show you can send by email, so if you're sending lots of images, a video CD is preferable. Click Print & Share > Video CD to begin, select 'Create using photos only' and click 'Next'. Now choose your menu background and music, and click 'Next' again.

2 Select images

Choose your images in the same way as for the slide show feature mentioned above. You can drag in photos you've worked on recently, or click 'Add More Photos' to see others. Drag and drop the images into the order in which you'd like them to appear, and click 'Next' when you've finished.



3 Create the disc

Every photo can be given its own caption and voice notes, if you've got enough disc space (click 'Calculate Disc Size' to find out). Give your disc a title, and preview the finished results with the virtual remote control. Click 'Back' to change something, otherwise select 'Record' to produce the disc.

BoxedArt
Terrific templates

PRODUCT INFO

- **Distributor**
  Big Resources Inc
- **Web**
  www.boxedart.com
- **As sold for**
  £20

Don't fancy shelling out hundreds of pounds for single Flash templates? Then use BoxedArt.com instead

Using templates in your web design work can be an expensive process. Templates can easily cost anything from £5 to £100, and you can't often try before you buy. BoxedArt.com, however, provides a welcome solution: subscribe for either a year or six months and you can download anything from the site. The huge collection includes thousands of *Flash* templates, total identity kits, *PowerPoint* templates, 3D animations, logo templates and more. If you were to download similar content from another site, piece by piece, BoxedArt estimate that it would cost you approximately £840,000 – and you can have access to it all for one small payment.

We've teamed up with BoxedArt to offer every reader 600MB-worth of templates free of charge. Go to **netmag.boxedart.com**, enter 'netmagazine' as your user name and 'boxedartspecial' as your password. You'll then be able to browse through a huge collection of templates, icons and more. If you want unlimited access to BoxedArt's collection, a six-month subscription is $49.95 (around £26). If you opt for a one-year subscription, you can save 44 per cent and pay $79.95 (around £46). ■

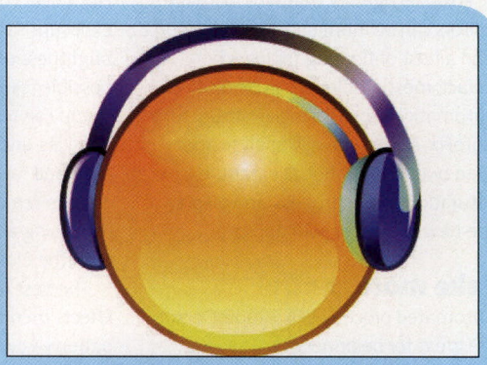
DISCOVER A TEMPLATE FOR EVERY OCCASION

Site templates

All site templates are highly customisable, and you can choose from a wide variety of categories (there's everything from accounting to weddings). If you don't know how to edit such graphics, simply go to **www.boxedart.com/phpshop/article.php** and you'll find several tutorials teaching you the basics.

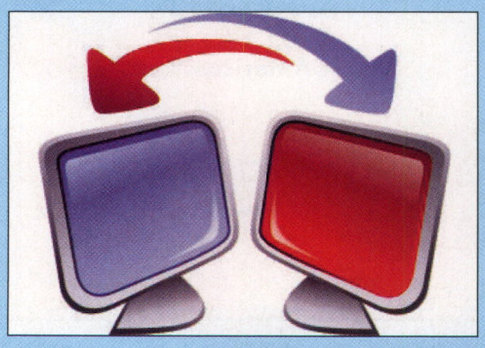
Flash templates

If you're a real *Flash* fan, you'll appreciate the various full *Flash* templates. They consist of pure SWF files, and you'll need some knowledge of *Flash* to customise them exactly to your needs. You also get the full FLA and PSD files with each template, and some contain music and/or sounds.



Flash intros

You can add real impact to your site using Flash intros. BoxedArt's templates include two versions, which include a TXT-editable SWF file. This means that you can still edit your text and links. For Flash fanatics, there's the standard version that can be fully edited with the FLA file.



Icons

There are plenty of icons to choose from, and each icon package – the universal symbol for rubbish in soft gel style, for instance – contains three raster JPEG sizes and a vector EPS version (sizes include 300x300, 150x150 and 70x70 pixels). The vector version is resizable to any dpi.

Mascots

Mascots are great for instantly grabbing your audience's attention. On BoxedArt.com there's a big choice, and each mascot comes as a standard raster JPEG image, as well as a resizable vector image in EPS format. The size is usually 600x600 pixels (or 1,000x1,000 pixels for first-generation mascots).

Brochure templates

As well as templates, there's loads of stuff you can use for print design. BoxedArt's brochure templates, for example, are dual-sided and ready to print. They're formatted in CMYK colouring, set to 300dpi, and available in three sizes (11x8.5 inches, 14x8.5 inches and 17x11 inches), either as AIs and PSDs.

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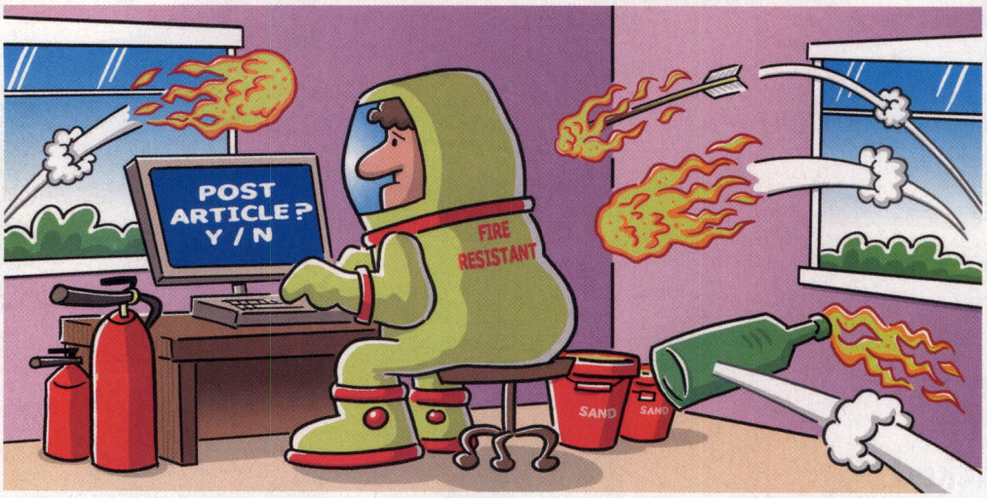

Wrong end of the click

Craig Grannell discovers that the power of search engines combined with certain minds that distinctly lack power is a dangerous mix...

Communication is a strange thing. I say this having just received an email stating (and these are its very first words) "you are a biased computer nerd who cannot accept that most people don't give a s*** about all the lame insider c*** that you talked about when you reviewed the imac," and finishing off with the wonderfully friendly line, "you are an idiot and it makes me laugh." Nice. For those of you wondering what I did to receive such a pleasant, friendly email, I wrote a column online – specifically, a column entitled 'Why the new iMac sucks' for my occasional rants site **www.reverttosaved.com**. The thing is, I wrote the piece years ago (it refers to the 'lamp' iMac, not the current model), and it also happens to be an overtly satirical piece, ridiculing the type of knee-jerk reactions many technology sites offer when Apple announces, well, pretty much anything. Ironic, then, that someone read the article and sent me an aggressive knee-jerk reaction, clearly not taking the time to find out what the website was about, nor bothering to note less-than-subtle details, such as the article being credited to the obviously fictional ZealotDumbassNet.com, and the 'writer' being Phil Clive Lover, or P.C. Lover (geddit?)

But, I've had worse. The Revert to Saved site has resulted in my receiving dozens of flames. However, today's nugget of unwanted and unwarranted bile gave me food for thought. The web is becoming increasingly fragmented in terms of information; search engines are improving, indexing content rather than keywords, meaning that visitors can arrive at any page on your site, often seeing information out of context. And it appears that attention spans are continuing to fall, to the point where people don't bother to find out if their vitriolic email is justified or not. (Additionally, there's the ease with which you can send someone a message, with the added bonus that, by and large, such messages are anonymous; chances are, my new critic wouldn't have said those things to me face-to-face.)

"People can, and will, arrive at pages deep inside websites, rather than just on the home page"

All of this is, of course, important to the budding web designer. Those of us designing sites have to be aware that people can, and will, arrive at pages deep inside websites, rather than just on the home page, and you need to ensure that when this happens, those people can easily find a link that will take them to a place where they can find out more about the site – and if such a page doesn't exist, perhaps it's time to make one. Of course, that won't be enough for everyone – Revert to Saved's contact form clearly states that "If something on this site has worked you up into a furious frenzy, do bear in mind this is a satire site before clicking 'submit'" – but, hey, it's a start. And this eminently sensible advice at least proves that I'm almost certainly not an idiot, even if I do sometimes make people laugh. ■

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